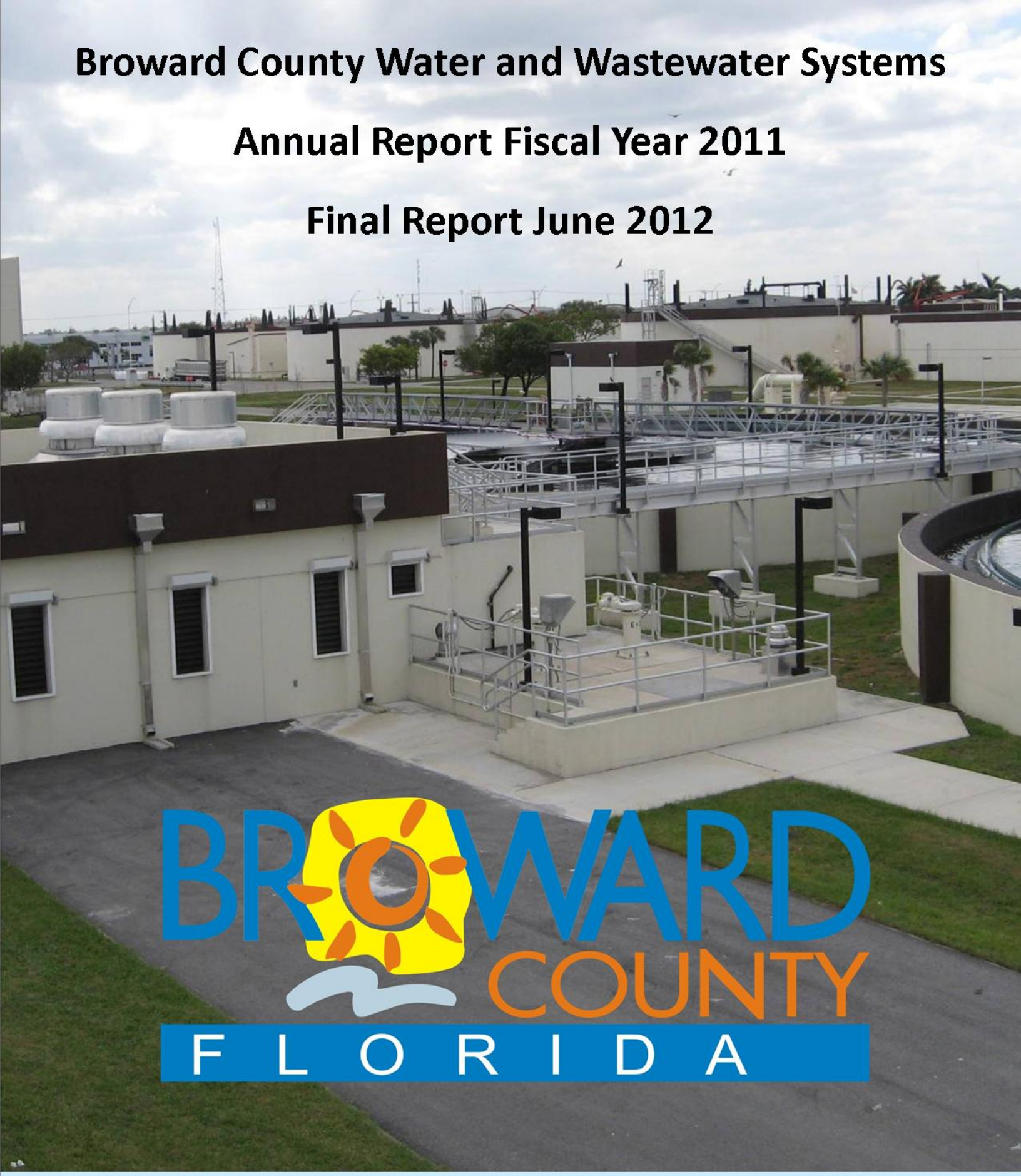
Broward County Water and Wastewater Systems

Annual Report Fiscal Year 2011

Final Report June 2012



Prepared by

Hazen and Sawyer, P.C. and Milian, Swain & Associates, Inc.

BROWARD COUNTY WATER AND WASTEWATER SERVICES ANNUAL REPORT

FISCAL YEAR 2011

Prepared for

Prepared by
Hazen and Sawyer, P.C.
and
Milian, Swain & Associates, Inc.
June 2012

Table of Contents

Table of Contents

Tables

Figures

Appendix A

Section 1 Introduction

1.1 Purpose of the Report

The purpose of this Engineer's Report for Water and Wastewater Services (WWS) of Broward County, Florida is to provide the following:

- A review of the management and organization of WWS which operates the County water and wastewater systems (collectively, the Utility);
- A description of the Utility;
- A financial review of the Utility regarding historical and prospective debt service coverage, insurance requirements, and future system funding needs;
- A summary of projections of future impacts on the Utility, projections of revenues and expenses, and a review of the planned capital improvements of the Utility.

This report provides descriptions and observations of the organization; the primary operating activities including the retail water and wastewater system which provides water and/or sewer service to approximately 59,000 customers, the North Regional Wastewater System which provides transmission, treatment and disposal services to other utilities on a wholesale basis and the Regional Raw Water System which provides raw water to other utilities; the water and wastewater capital improvement program (CIP); and the financial operations of the Utility.

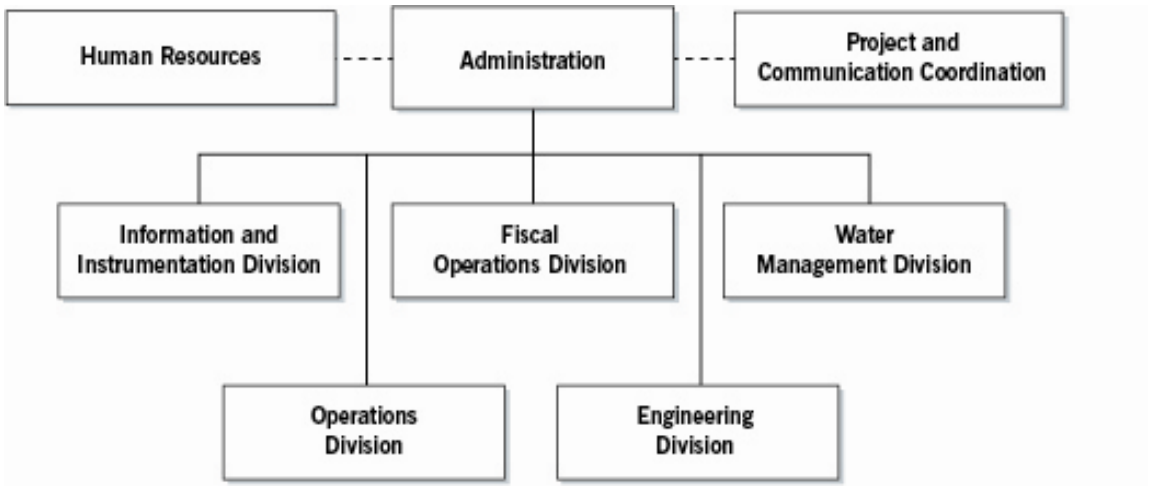
Section 2 Administration and Management

2.1 History and Organization of Water and Wastewater Services

The Broward County Utilities Division was created on January 31, 1962, with the County's purchase of a small, investor-owned water and wastewater utility. Between 1962 and 1975, the County acquired a number of private utilities. In 1972, the Utility commenced construction of its North Regional Wastewater Treatment Plant (NRWWTP) and, in 1975, began providing wholesale wastewater treatment service to large users. In 1976, to achieve fiscal consolidation, the County established uniform rates throughout its service areas. The water utility service area is divided into separate geographic areas (districts), where District 1 is served by Water Treatment Plant (WTP) 1A, District 2 by WTP 2A and District 3 by purchased water from the City of Hollywood.

Subsequent reorganizations created Water and Wastewater Services (WWS). WWS, consisting of five divisions within the Public Works Department, is responsible for planning, construction, operation, maintenance, customer service, water management, and financial management of the Utility. These divisions are Water and Wastewater Operations, Water and Wastewater Engineering, Water Management, Water and Wastewater Information and Instrumentation Technology, and Fiscal Operations. In addition, within WWS Administration are two sections which support the Divisions. They are Human Resources and Project & Community Coordination. As of September 30, 2011, WWS employed 376 people, including 25 certified water operators, 18 certified wastewater operators, 15 registered professional engineers, and 4 certified public accountants. Included are 2 employees who are dual certified as both water and wastewater operators. In addition, numerous employees hold recognized industry specific certifications. An organizational chart, Figure 2-1, is provided below.

Figure 2-1 Water and Wastewater Services Organizational Chart



Under the County Code of Ordinances, the County exercises exclusive jurisdiction, control and supervision over the utility system or any part of a utility system owned, operated or maintained

by the County. The Board of County Commissioners of Broward County, Florida (the Board) has the specific legal authority to fix, charge and collect from its customers, rates, fees and charges, and to acquire, construct, finance and operate the Utility without supervision or regulation by any other political subdivision of the State (provided that environmental impacts are regulated as described herein).

2.2 Mission

WWS has adopted a mission statement expressing commitment to performing as a benchmark comprehensive utility providing exceptional retail and regional water and wastewater management services and programs to its customers; and supporting continuous improvement while maintaining the quality of life in Broward County through sound environmental practices.

Goals

The following goals were established by WWS to:

- Provide high quality and cost-effective services.
- Treat customers professionally and with the utmost respect.
- Operate the facilities and execute programs in a manner that protects the environment.
- Protect and enhance the natural resources of Broward County.
- Create and maintain a workplace in which employees are provided the opportunity to develop to their maximum potential.
- Maintain honesty and integrity in every aspect of the operation.

Water and Wastewater Services Administration

Water and Wastewater Services Administration manages and directs the activities of the five Water and Wastewater Services (WWS) divisions: Engineering, Fiscal Operations, Information Technology, Operations, Water Management; as well as the office of Project & Community Coordination, which assists in the management of the Neighborhood Improvement Projects (NIPs). Administration approves operating and capital budgets, assures rates, fees, charges are sufficient to support fund activities and debt service requirements while maintaining appropriate coverage to maintain or enhance bond ratings. Administration develops and implements financing plans for the successful implementation of the capital plan and policies to ensure environmentally safe water resources. The program manages relationships with Large Users of the North Regional Wastewater System and the Regional Raw Water System. The section manages HR activities, including maintaining employee records, processing personnel actions and manages a program to promote personal and professional employee development. Administration manages water and wastewater-related public affairs, including publishing the award-winning, federally mandated annual Consumer Confidence Report and the WWS employee newsletter. Staff serves as liaison to the Office of Intergovernmental Affairs and Professional Standards for all water and wastewater-related legislation at both the state and

federal levels. Administration coordinates activities to identify efficiencies and synergies to reduce overall costs and enhance the delivery of services. The section develops and implements water conservation programs to benefit customers and to protect and preserve the environment and sponsors periodic customer service surveys.

For FY 2011, WWS Administration highlights included:

- Wastewater Services' water and sewer utility bonds preserved strong long-term ratings—"AA", "AA" and "Aa3"—from the three major rating services during a year which saw downgraded ratings for a significant number of government issuers.

- The Retail Rates were recalculated and recommended rates were approved by the Board to support the revenue required to fund retail and resale water and wastewater operating and capital costs as well as debt service principal, interest and coverage requirements for fiscal year 2012.

- The Regional Rates for wastewater and raw water were recalculated in conformance with large user agreements and recommended rates were approved by the Board for fiscal year 2012.

Water and Wastewater Operations Division

Water and Wastewater Operations Division (WWOD) is committed to supplying high quality raw and potable water; reliable water distribution and wastewater collection services to its customers; reliable transmission, treatment and disposal of wastewater to large users in the north region of the County; and ensuring all services are delivered in a safe, efficient and cost-effective manner.

WWOD is responsible for pumping, treating, and distributing water and/or the provision of wastewater collection services to retail and water resale customers. The division operates and maintains water treatment plants; re-pumping and storage facilities; lift stations, underground water distribution and sewage collection systems; and other support facilities. The division is responsible for the preparation and submittal of reports to comply with federal, state and local requirements (such as the Safe Drinking Water Act) and to insure the reliable production of high quality, safe potable drinking water for our citizens. The division provides raw water from two regional wellfields to five large users and to Broward County retail operations.

WWOD is also responsible for providing wastewater transmission, treatment and disposal services to eleven large users and to Broward County through the operation and maintenance of a regional wastewater treatment facility and related regional pumping stations. The division operates a reclaimed water facility, which provides reclaimed water to both industrial and retail customers. In addition, WWOD operates a State certified laboratory, a nationally recognized Industrial Pretreatment Program (IPP), and provides critical environmental service through operating and maintaining the only Septage Receiving Facility located in Broward County.

During FY 2011:

- WWOD's North Regional Wastewater Facility effluent ocean outfall nutrient reduction goals continue to exceed those established by the Florida DEP in response to the State of Florida legislation to permanently close all ocean outfalls by 2025.

- On November 1, 2010 WWOD achieved another milestone in the Maintenance Excellence program by going live with the CMMS system upgrade to MAXIMO 7.15. This upgrade has enhanced our work order processing management capabilities.

- WWS procedures for damage claims, sewer system overflows (SSO), and precautionary boil water notifications were mapped and implemented by the division.

- The Broward County FROG (fats, rags, oil, and grease elimination from the wastewater collection system) campaign was initiated in October, 2010. Successes achieved include de-ragging of wastewater effluent pumps and savings associated with corrective maintenance.

- Water supply service was extended to the Broadview Park area from the Division's District 1 WTP in February 2011. This reduced purchased water by approximately 600,000 gallons per day.

Water and Wastewater Engineering Division

Water and Wastewater Engineering Division (WWED) is committed to managing the WWS Capital Improvement Program (CIP) by ensuring that cost-effective, reliable infrastructure is available in a timely manner to meet the current and projected demands and capacities for raw water, potable water, sanitary sewer and storm drainage within WWS service areas.

WWED is responsible for developing and implementing the CIP for services provided by WWS including water, wastewater, and drainage. The division is also responsible for coordination of developer-donated facilities, the maintenance of record information on potable water and wastewater facilities, administration of potable water and sewer easements, and administration of permits to connect to the potable water and wastewater plants operated by the WWS. WWED also provides general potable water and wastewater engineering support for Broward County. These processes ensure compliance with the County's minimum standards for construction and integrity of WWS systems.

WWED manages the following projects:

- The Neighborhood Improvement Program (NIP) encompasses a total area the size of a medium city with 9,335 acres, 92,500 people, and 28,555 homes. Planned improvements include 295 miles of roadways, 428 miles of sidewalk, and 623 miles of pipeline which will enable the elimination of 10,607 septic tanks. Construction started in 1996 and is currently scheduled to be completed in 2013. The current estimated cost of the NIP is $745 million. Approximately $388 million, or 52 percent of total cost, is for water and sewer upgrades of which approximately $300 million has been spent to date. Of the 66 planned bid packages, 51 have been completed and 11 are under construction.

- The Local Utility Program (LUP) includes an area of 1,479 acres. The planned improvements include approximately 54 miles of pipeline. Construction started in 2009. Each project is designed based on its Utility Analysis Zone (UAZ).

- Evolving regulations coupled with on-going facilities operations permit negotiations at the North Regional Wastewater Treatment Plant (NRWWTP) are developing into potential plant process improvements ranging from $50M to $900M in construction costs within the next 5 to 15 years. The scope and nature of the improvements will be determined through the master planning efforts to achieve compliance with legislation, rules and permit negotiations. In addition, WWS is simultaneously implementing a series of collection system improvements to ensure adequate system capacity as well as reliability.

- In excess of $65 million in construction is budgeted for potable water treatment facility improvements including the reverse osmosis treatment facility at Water Treatment Plant 1A.

- WWS currently has over $167 million budgeted in retail water and sewer construction projects. These projects include water and sewer main construction, and engineering services.

- Chevron USA, Inc. is currently performing an investment grade energy audit of facilities for the application of energy conservation measures (ECMs) for Water & Wastewater Services wastewater treatment facilities. The goal of this project is to reduce the carbon footprint through the implementation of the ECMs thus resulting in reduced operational costs and improved environmental efficiencies. The results of this audit are expected to be presented to the Board for approval in fiscal year 2012.

Water Management Division

Water Management Division (WMD) is committed to developing, managing, operating, and maintaining the surface and groundwater resources within our service area to provide recharge for water supply and wetlands, saltwater intrusion abatement, drainage and flood control, and environmental enhancements.

WMD programs in engineering, management, and development review provide for the planning, design, construction, and right-of-way management of waterways, culverts, pump stations and water control structures that provide flood protection, surface and ground water recharge, saltwater intrusion abatement, and urban water supply. Water supply planning, well site assessments, and permitting services are provided to apply for, obtain, and assure compliance with public water supply and diversion & impoundment water use permits. Staff also engineers and manages the inspection, cleaning, and repairs of County roadway drainage elements; assures compliance with the Florida DEP National Pollutant Discharge Elimination System (NPDES), Municipal Separate Storm Sewer Systems (MS4) Permit for Broward County; and prepares and submits applications and data for the renewal of surface water management licenses for the roadway drainage system.

Other activities included:

- Staff participated in water supply and water resource development programs, including the C-51 Reservoir Project, Integrated Water Resources Management Master Plan, Broward County Water Resources Task Force and Technical Team and the Broward County Water Advisory Board and Technical Advisory Committee.

- SFWMD concerns regarding service to and emergency plans for Hallandale Beach and Dania Beach for the South Regional Wellfield water use permit renewal are being resolved.

- Annual updates, water level information, and chloride monitoring to SFWMD concerning the 1A, 2A/NRW, and SRW water use permits were prepared.

- Easements for Floridan well sites for the District 1A WTP and assisting with the rehabilitation of District 2A wells 8 and 9 were pursued.

- The transfer of Biscayne allocation from Plantation to District 1A for service to Broadview Park is being negotiated.

- The SCADA system for wellfield recharge through the canal network is being expanded.

- Staff is assisting with the development of a model to evaluate the impact of predicted sea level rise on the 2A wellfield.

- Staff is assisting with the development of a Biscayne Aquifer model to evaluate the modeling of surface water from the proposed C-51 Reservoir to and throughout Broward County.

- Staff is providing input for the development of the Broward County Floridan Aquifer System Model.

Fiscal Operations Division

Fiscal Operations Division (FOD) is committed to supporting all WWS divisions by providing exceptional customer service and timely and accurate billing services; supporting sound financial management, fiscal planning and rate development; and providing efficient and effective support services.

FOD provides accounting services for all divisions of WWS to provide timely financial reporting, ensure compliance with federal and state laws, professional accounting standards and County policies and procedures. The division provides customer services including meter reading and meter repair, monthly billing, and collection of revenues. The division operates a warehouse for materials and supplies used in the operation and maintenance of utility infrastructure. FOD coordinates materials management, purchasing and contract administration functions for all operational and administrative activities in WWS. In addition, the division provides Grounds and Building support services to over 200 locations owned and operated by WWS throughout the County. The division also coordinates the budgeting activities of all divisions of WWS and

supports the development of fiscal plans and rates, fees and charges for the services provided by WWS.

For 2011, highlights included:

- As part of the Agency's water conservation efforts, the "Toilet Credit" Program continues for water customers of WWS who replaced old high flow toilets with new low flow toilets. Each approved customer receives a $100 credit to their water bill, a low flow showerhead and faucet flow–reducers.

- The Customer Service team achieved a 90% customer satisfaction rating. Our Quarterly Customer Service Survey indicates that our customers rate WWS service as "above average" to "excellent" over 90% of the time.

- The Customer Service team added a dedicated line for phone payments as a customer menu option, significantly improving customer wait time.

Water and Wastewater Information and Instrumentation Technology Division

Water and Wastewater Information and Instrumentation Technology Division (IITD) is committed to providing WWS divisions with current industry standard technologies to efficiently and effectively automate business functions and to providing a high level of service support for those systems.

IITD provides specialized automation services to the water and wastewater utility by acquiring, developing, and maintaining the latest utility specific technology solutions on its proprietary utility network. IITD is responsible for maintaining the automation and industrial control systems at all four main treatment and distribution facilities and over one hundred other distribution and storage facilities within Broward County on a 24-hour, 7 day-per-week basis. IITD also provides desktop, server and network support for the WWS segment of the County's administrative network. The division also manages the safety and security of WWS staff and facilities which have been designated critical infrastructure by Homeland Security.

During FY 2011:

- The majority of Utility network servers and PCs were virtualized (60 servers and 275 PCs). This installation greatly reduced power consumption to meet Broward County's green initiative (virtual desktops use 90% less power than regular PCs). This implementation also significantly improved redundancy, disaster recovery, and deployment of PCs/servers for the WWS Utility clients.

- All core infrastructure equipment (switches, routers, firewall, VPN) were migrated to the Incident Command Center (ICC) building. This migration leveraged physical security while providing a hurricane resistant facility. This project also involved the installation of a new core switch at the ICC to replace aging equipment. The ICC building was set up as a multi-operator command, control and database center for the SCADA systems.

- New Contact Center scripts were developed to enhance customer interaction and provide better reporting for WWS customer service team. The interactive voice response (IVR) system was

upgraded to provide up-to-date customer billing information. Two dedicated lines were configured as pay stations to minimize customer wait time for those who want to pay over the phone.

- The IPVision system was installed to integrate all IP cameras into a centralized management system. This provides better indexing of video recording thus enhancing event retrieval, notification, and escalation. Media servers/network storage devices were deployed at the Septic Receiving Facility and Water Treatment Plants 1A and 2A to localize camera data and minimize wide area network traffic.

- To meet laboratory regulatory compliance requirements, IITD implemented a backup and retention method for seven (7) specialized workstations used to control laboratory testing and analysis equipment.

- The Transdyn control system implementation was completed for Water Treatment Plant 1A plant transfer pumps project, 1A hydrochloride disinfection project, and the 1A VFD high service pumps project. Multiple report templates for 1A operation were developed and a web browser link report tool was created for engineering to assist in the study of the south regional distribution effluent total flows. SCADA fiber transceivers were upgraded to replace outdated equipment and increase data throughput at Water Treatment Plants 1A and 2A.

- Seven Information and Control Stations (ICS) were converted to the latest technology for the Wastewater SCADA system. The 5 minute scan process in the Wastewater SCADA system was developed and implemented to support the requirements of the Department of Environmental Protection (DEP) as they relate to the re-use chlorine. A phased approach wastewater process protection security plan was developed. IITD trained maintenance personnel, assisted with programming of the wastewater master lift stations, and completed two software upgrades.

- IITD developed a Data Warehouse that currently incorporates data from CIS and Maximo. The Expense to Budget report was automated and was built on the Data Warehouse. The former manual process that used to take weeks to create a report is now an automated process that just takes a few minutes.

- GIS to ESRI's latest version ArcGIS10 was upgraded and the ArcGIS Server was implemented which will allows WWS staff to take advantage of new editing functionalities of ArcGIS Desktop. An interface between GIS and Maximo was implemented that allows synchronization of data between the two databases.

Project and Community Coordination

Project and Community Coordination (P&CC) operates within WWS Administration and manages public affairs for WWS, including publishing the federally mandated annual Water Quality Report and the internal WWS employee newsletter "Keeping Connected". The group provides public information and supports public and customer relations to customers/residents impacted by construction projects (including the Neighborhood Improvement Projects) by keeping them informed of construction plans and schedules and investigating customers' construction related concerns. The group provides outreach and education for water conservation programs, sponsors periodic customer service surveys and works closely with other Agencies on special educational projects for Career Days, Earth Day, Drinking Water Week and water conservation events.

For FY 2011, highlights included:

- P&CC won 2 awards in the National Association of County Information Officers (NACIO) "Awards of Excellence" competition, including awards for its most recent Water Quality Report and its employee newsletter. P&CC shared 4 NACIO awards with the Water and Wastewater Operations Division and the County's Public Communications office for collaboration on "FROG" ("Fats, Rags, Oil and Grease" disposal) materials.

- P&CC participated in a number of community water conservation events in 2011, including activities commemorating "Drinking Water Week", "Earth Day" and "Water Matters Day". These events attracted several hundred members of WWS's public constituencies who received rain gauges, water bottles, crayons, coloring books and other giveaways.

- Nearly 50,000 copies of the annual Consumer Confidence Report (Water Quality Report) were published and distributed to all of its customers in 2011, pursuant to federal law.

Section 3 Retail Water and Wastewater Utilities System

This section describes the water and wastewater retail system including the service area, results of the physical inspection and review of the renewal and replacement program.

3.1 General Description

The retail water system supplies potable water to retail customers in several sections of the County and to one significant bulk water user. Over the past ten years, the County's retail water system has grown from 50,709 customers (connections) to its present retail base of 58,773. This represents a population of approximately 184,000. The City of Coconut Creek, a sale for resale customer, has approximately 56,000 residents. Including the City of Coconut Creek, the retail water system serves approximately 13 percent of Broward County's total population.

The retail wastewater system provides wastewater collection service to approximately 76 percent of the County's retail water customers. The County's wastewater retail customer base has grown from 34,847 customers (connections) to its present base of 44,856 customers in the past ten years and will continue to grow through the County's extension of sanitary sewers into currently un-sewered areas. Treatment and effluent management is provided by the County-operated North Regional Wastewater System (the "Regional Wastewater System" discussed in Section 4 and collectively with the retail wastewater system the "Wastewater System") and by the Southern Regional Wastewater System operated by the City of Hollywood. A summary of the Retail Water and Wastewater systems is presented in Table 3.1.

Notably, finished water production has decreased in recent years. This is primarily attributable to drought effects, as well as the County's water conservation efforts, including year round lawn irrigation restrictions. Water conservation was amplified following a drought in 2007.

Table 3.1 Summary of Retail Water System and Retail Wastewater System

System Component	Units	Fiscal Year 2002	Fiscal Year 2011	Change	Percent Change
Water System					
Customer Base	Customers	50,709	58,773	8,064	15.90%
Water Service Area	Square Miles	40.10	40.99	0.89	2.22%
Water Lines	Miles	660.00	699.44	39.44	5.98%
Water Plant Capacity:					
Plant Capacity	MGD[2]	46.00	46.00	0.00	0.00%
Avg. Daily Production[1]	MGD[2]	26.39	19.76	-6.63	-25.12%
Max. Daily Production[1]	MGD[2]	32.17	22.43	-9.74	-30.28%
Purchased Water	MGD[2]	5.60	6.04	0.44	7.86%
Wastewater System					
Customer Base	Customers	34,847	44,856	10,009	28.72%
Wastewater Service Area	Square Miles	39.95	40.63	0.68	1.70%

[1] *Reductions reflect demand management efforts including low flow plumbing retrofits, lawn irrigation restrictions, etc.*

[2] *MGD = Million Gallons Per Day.*

Source: Broward County Water and Wastewater Services

Service Area and Customer Base

The retail water system is divided into three (3) service districts - Districts 1, 2 and 3 which collectively cover approximately 41 square miles. Additionally, District 2 sells water to the City of Coconut Creek which re-sells it to its customers. Two (2) water treatment plants, one each in District 1 and District 2, have a combined permitted water treatment capacity of 46 MGD (million gallons per day). However, potable water production is constrained by consumptive use permits from the South Florida Water Management District. Based on the current 20-year permit, Biscayne Aquifer allocations are 30.7 MGD through the year 2013, and 26.7 MGD through 2028. After 2013 a Floridan Aquifer allocation of 9.3 MGD is included in the 20-year consumptive use permitted withdrawal. . The Utility's five year Capital Improvements Program (CIP) is predicated upon these allocations. Water for District 3 is provided by the City of Hollywood through a water-for-resale agreement.

The distribution systems in the three Districts contain approximately 699 miles of water distribution and transmission mains with 2-inch or greater diameters. Figure 3-1 shows the geographic location of each service district as well as the large user (the City of Coconut Creek). Table 3.2 summarizes information on the production wells, treatment plants, and water system storage capacity in each district.

Figure 3-1 WWS Retail Water Service Areas

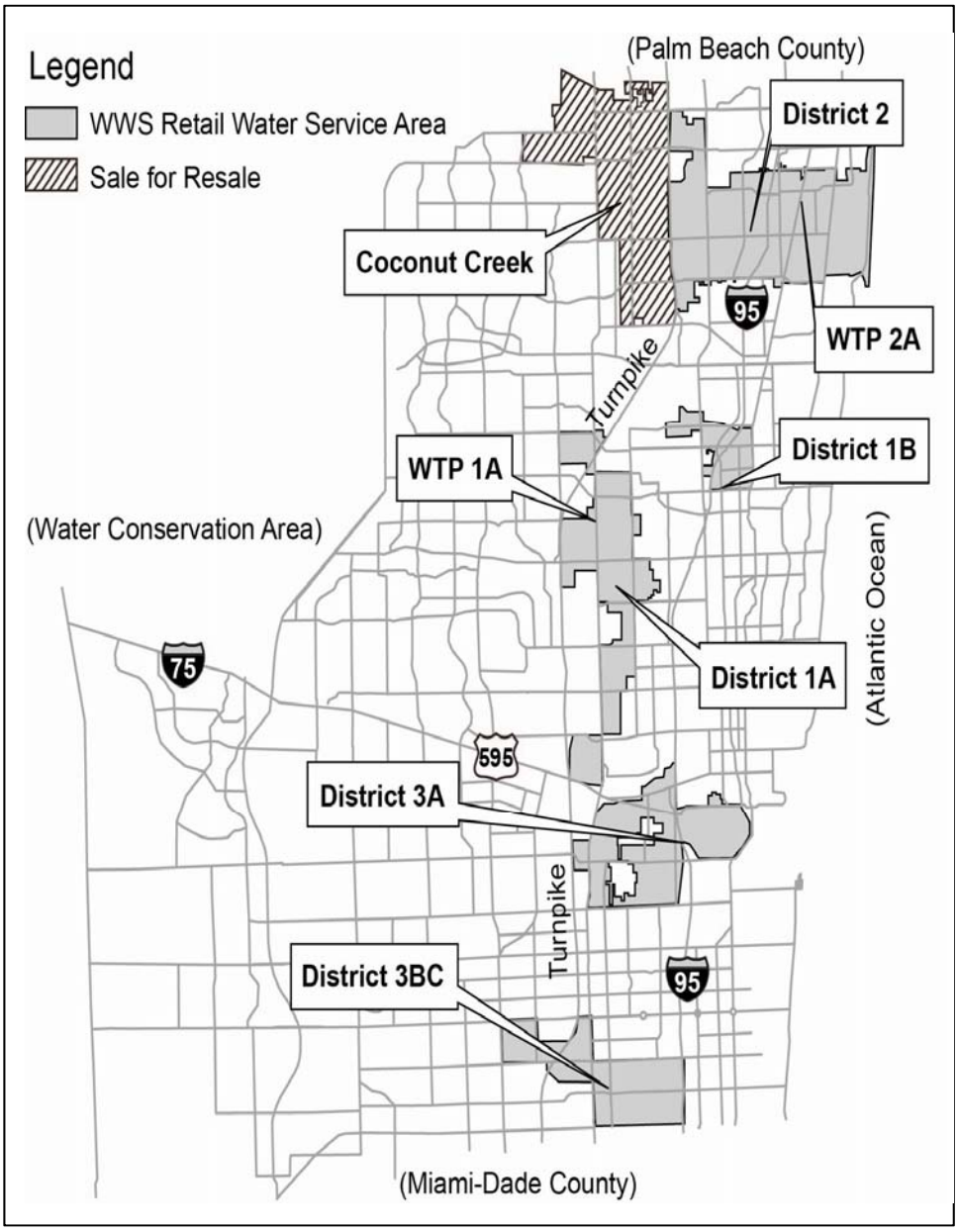


Table 3.2 Summary of Water System Facilities and Capabilities as of September 30, 2011

	District 1	District 2	District 3	Total
Production Wells	9	11	0	20
Wellfield Firm Capacity, (MGD)[1,2]	19.6	28.9	0	48.5
Treatment Plants[4]	1	1	0	2
Permitted Plant Capacity (MGD)[2,3]	16	30	0	46
Current Permitted Allocation (MGD)[2,3,]	10.7[5]	20.0[6]	0	30.7
Storage Capacity (Million Gallons)[4]	6.2	8.5	6	20.7
Distribution Mains (Miles)	241.71	244.47	213.26	699.44
Service Area (Square Miles)	11.99	14.79	14.21	40.99
Purchased Water (MGD)[2]	0.188	0	5.851	6.039
Produced Water (MGD)[2]	7.219	12.526	0	19.745

[1] *Firm Capacity refers to the available flow with the largest well in each district out of service.*

[2] *MGD = Million Gallons Per Day*

[3] *Permit allocations are less than permitted treatment plant capacity.*

[4] *Includes clearwells, on site and distribution storage facilities.*

[5] *Does not include purchased water from the Cities of Plantation.*

[6] *Includes finished water sold to Coconut Creek.*

Source: Broward County Water & Wastewater Services

The Water System supplies water primarily to retail customers but also serves the City of Coconut Creek under a resale agreement which expires as described in Section 3.5. Without prior approval by the County, the City of Coconut Creek is prohibited from buying or otherwise providing water within its service area from any source other than the County during the term of the resale agreement, and cannot provide more than 100,000 gallons per day of water to any customer unless approved by the County. Presently, there appears to be no practical or economic incentive for the City of Coconut Creek to pursue development of its own facility or to develop alternative sources of supply. The County cannot charge rates to Coconut Creek greater than those charged to other customers in the same class. Billing based upon water meter readings is provided monthly. A summary of historical treated water sold and consumption data, including service to the City of Coconut Creek, is shown in Table 3.3. Values for annual average daily consumption will differ from the sum of production plus purchased water due to system losses.

Table 3.3 Summary of Treated Water Sold as of September 30, 2011

Fiscal Year	Average Number of Units[1]	Average Number of Metered Customers	Total Billed Treated Water (1,000 GAL)	Total Billed Water for Resale (1,000 GAL)[2]	Annual Average Daily Consumption (MGD)
2002	81,058	50,709	9,916,497	2,126,774	27.17
2003	81,658	51,044	9,962,676	2,104,272	27.30
2004	82,171	51,525	10,574,616	2,190,845	28.97
2005[3]	84,203	53,705	11,383,041	2,178,609	31.19
2006	83,725	52,938	10,362,713	2,005,205	28.39
2007[4]	87,539	55,596	9,725,151	1,958,720	26.64
2008[4]	89,452	57,003	9,063,644	1,868,562	24.83
2009[4]	92,870	58,287	9,001,466	1,872,821	24.66
2010[4]	93,183	58,323	8,628,876	1,754,856	23.64
2011[4]	92,208	58,773	8,616,736	1,731,297	23.61

[1] *The term "unit" means individual living unit for residential (single family), multifamily, hotel/motel and mobile home categories. Several units may be served through one connection. For commercial, the term means the number of connections.*

[2] *Included in the total water billed; primarily represents service to the City of Coconut Creek.*

[3] *Several hurricanes resulted in significant water losses from line breaks and leaks throughout the system.*

[4] *Droughts which began in April 2007 have resulted in reduced water use due to demand management efforts comprising water conservation initiatives, including year round lawn irrigation restrictions.*

Source: Broward County Water and Wastewater Services

The retail wastewater system service area covers approximately 41 square miles with approximately 396 miles of gravity sewers, 224 lift stations, 5 master pump stations, and 104 miles of force mains. Figure 3-2 shows the service districts for the retail wastewater system. Table 3.4 presents retail wastewater system characteristics. A 10-year summary of the Retail Wastewater System customers and billed wastewater flows is presented in Table 3.5. Table 3.6 presents a five-year history of water usage by customer type.

Figure 3-2 WWS Retail Wastewater Service Areas

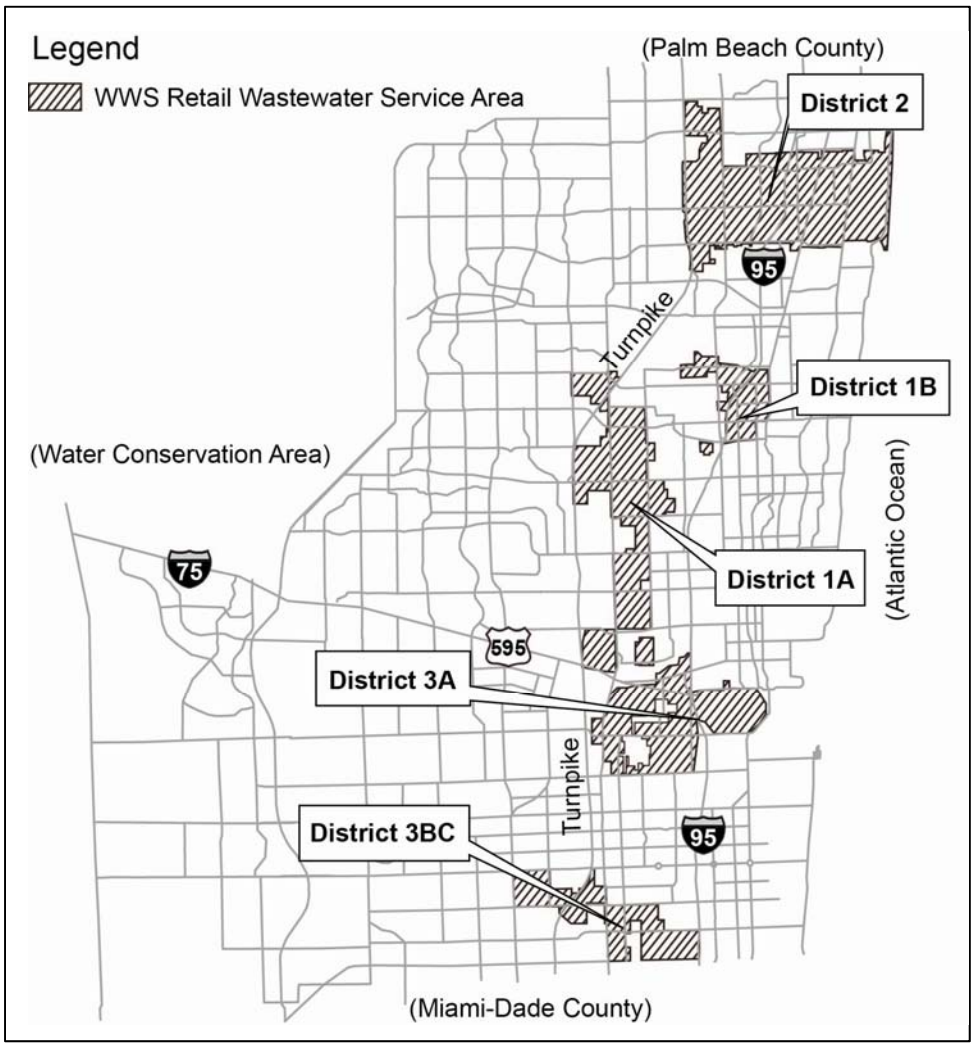


Table 3.4 Retail Wastewater System Characteristics as of September 30, 2011

	District 1	District 2	District 3	Total
Service Area (Square Miles)	12.98	15.58	12.07	40.63
Gravity Sewer (Miles)	164.05	154.59	76.94	395.58
Lift Stations	69	94	61	224
Force Mains (Miles)	37.00	33.71	33.65	104.36
Master Pump Stations	-	4	1	5

Source: Broward County Water and Wastewater Services

Table 3.5 Summary of Billed Wastewater - Retail as of September 30, 2011

Fiscal Year	Average Number of Units[1]	Average Number of Metered Customers	Total Billed Treated Wastewater[3] (1,000 GAL)	Annual Average Daily Flow (MGD)
2002	63,050	34,847	5,077,785	13.91
2003	64,377	35,704	5,121,649	14.03
2004	65,029	36,654	5,310,427	14.55
2005	67,116	38,257	5,130,824	14.06
2006	67,736	40,021	5,077,759	13.91
2007	70,361	41,297	4,915,383[2]	13.47
2008	71,718	42,163	4,830,155[2]	13.23
2009	74,146	43,591	4,828,210[2]	13.23
2010	74,547	44,953	4,744,985[2]	13.00
2011	74,691	44,856	4,891,742[2]	13.40

[1] *The term "unit" means individual living unit for residential (single family), multifamily, hotel / motel, and mobile home categories. Several units may be served through one connection. For commercial, the term means the number of connections and does not include the large user.*

[2] *Droughts which began in April 2007 have resulted in reduced water use due to demand management efforts comprising water conservation initiatives, including year round lawn irrigation restrictions. Reduced water use translates to reduced billed wastewater.*

[3] *Billed wastewater is primarily based upon water sold.*

Source: Broward County Water and Wastewater Services

Table 3.6 Water Usage - Five Year History (1,000 gallons) Through September 2011

Customer Class	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009	Fiscal Year 2010	Fiscal Year 2011
Residential	5,062,677	4,811,170	4,788,005	4,608,329	4,659,677
Commercial	2,260,552	2,032,324	1,924,704	1,848,557	1,785,623
Irrigation	443,202	351,588	415,936	417,134	440,139
Sale For Resale	1,958,720	1,868,562	1,872,821	1,754,856	1,731,297
Total[1]	**9,725,151**	**9,063,644**	**9,001,466**	**8,628,876**	**8,616,736**

[1] *Droughts which began in April 2007 have resulted in reduced water use due to demand management efforts comprising water conservation initiatives, including year round lawn irrigation restrictions.*

Source: Broward County Water and Wastewater Services

3.2 Water System Regulatory Requirements

Current Water Quality Regulations

The Safe Drinking Water Act (SDWA, 1974) and the Safe Drinking Water Act Amendments (SDWAA, 1986) authorized the United States Environmental Protection Agency (EPA) to establish national primary and secondary drinking water regulations to regulate maximum permissible levels of contaminants in finished drinking water. These standards were incorporated into the State of Florida Water Quality Regulations in 1993, making all regulated parameters enforceable within the State.

The Water and Wastewater Operations Division (WWOD) annually performs a complete analysis for all primary and secondary drinking water standards on raw and finished water supplies to meet the State of Florida Water Quality Regulations (Chapter 62-550.300, Florida Administrative Code). No maximum contaminant levels (MCLs) have been exceeded by WWOD's finished water. WWS tests raw water quality only for the development of baseline data; MCL limitations do not apply. The annual report presenting the results of the analysis is available at http://www.broward.org/WaterServices/Documents/2010WaterQualityReport.pdf

Water Quality Regulations

The Stage I Disinfectant/Disinfection By-Products Rule (D/DBP) was promulgated in 1998 and required all groundwater treatment plants, which include the WWS water treatment plants, to comply with MCL's for trihalomethanes (THMs), five haloacetic acids (HAAs), chlorite, and bromate and maximum residual disinfectant levels (MRDLs) for a number of common disinfectants including chlorine, chloramines, and chlorine dioxide. The Stage I limits for THMs and HAAs were 80 mg/l and 60 mg/l respectively, with measurements based upon a distribution system wide average.

WWS water treatment plants (WTP) currently meet all regulations and comply with current Stage I disinfection by-products regulations.

The Stage II D/DBPR was promulgated on January 4, 2006, and the regulation became effective March 6, 2006. The purpose of the Stage II D/DBPR is to reduce DBP occurrence peaks in the distribution system by using a new method to determine MCL compliance, defining operational evaluation levels, and regulating consecutive systems. No problems have been detected since the regulation became effective.

The County has completed the Stage II By-product Rule Standard Monitoring for all water distribution systems and in accordance with the rule submitted the Initial Distribution System Evaluation (IDSE) Report on December 8, 2008 to meet the January 2009 deadline. By April 2012, the County is required to develop and implement a Compliance Monitoring Plan and to begin compliance monitoring; Compliance Calculation Procedures were included in the IDSE Reports, as provided by the U.S. EPA-IDSE Guidance document (EPAQ 815-B-06-002) to meet the Compliance Monitoring Plan requirement.

3.3 Water Supply

The primary source of water supply for WWS is the Biscayne Aquifer. Presently, WWS operates wellfields for Water Treatment Plants 1A and 2A with firm capacities of 19.6 and 28.9 MGD, respectively. Additional water is provided to District 2 by the North Regional Wellfield with a firm capacity of 18.1 MGD. A physical description of the regional system and wellfields is provided in Section 5. Water for District 3 is provided by the City of Hollywood.

In 1979, the Biscayne Aquifer was designated as a “sole source” drinking water supply by the EPA. The water in the aquifer is primarily replenished by rainfall but also is recharged by water flowing from Lake Okeechobee and conservation areas through an extensive canal system. Presently, in addition to the Utility, the Biscayne Aquifer is also used for most of the municipal raw water supplies in Broward County, Miami-Dade County and the southern portion of Palm Beach County.

Section 3.0 of the South Florida Water Management District Basis of Review for Water Use Permit Allocations generally limits raw water usage from the Biscayne Aquifer for public water supply to the maximum quantity of water withdrawn during any consecutive twelve month period during the five years preceding April 1, 2006. Water supplies necessary to satisfy any demand which exceeds that maximum quantity must come from an alternative water supply source, such as the Floridan Aquifer, harvested stormwater or reclaimed wastewater.

Due to its cost-effectiveness, the relatively shallow Biscayne Aquifer is, and is likely to remain, the County’s primary source of raw water supply. Alternative, future supply is currently expected to be provided through a Floridan Aquifer supply. The CIP for the Utility includes provisions to construct reverse osmosis treatment to effect utilization of Floridan Aquifer waters. It is noted, however, that Broward County, Palm Beach County, several municipalities, and the South Florida Water Management District (SFWMD) are also currently evaluating a regional harvested stormwater reservoir project in Palm Beach County known as the C-51 Reservoir that could

expand the supply of Biscayne Aquifer raw water. Should the C-51 Reservoir prove to be a lower cost alternative water supply option, the County maintains the flexibility to reduce or eliminate proposed use of the Floridan Aquifer.

3.4 Water Supply Regulatory Requirements

The volume of raw water withdrawal from the Utility's wellfields is regulated by the SFWMD. Each wellfield is governed by a water use permit that stipulates the maximum allowable annual and monthly withdrawal. These permits are reissued for periods of five to twenty years. The Utility's current annual permitted rate of raw water allocations is 18.3 billion gallons from all wellfields combined, including the Regional Raw Water Wellfields. The Utility holds three permits from the SFWMD for the wellfields 1A, 2A/North Regional Wellfield (NRW), and the South Regional Wellfield (SRW). The permits for 2A/NRW were consolidated into one 20-year permit in March 2008. The 1A Wellfield was also granted a 20-year permit in April 2008.

The permit for the SRW expired in October 2007, and the submitted application for SRW permit renewal is currently under review by the SFWMD. The permit is administratively extended while under review. The County has held several review meetings with the SFWMD. Based upon the reported results of these meetings, review is expected to be favorable, but will be delayed as the SFWMD resolves sub-regional water supply solutions for Hallandale Beach and Dania Beach. Regardless of issues associated with the cities of Hallandale Beach and Dania Beach, it is expected that the SRW permit will be reissued in the ordinary course of events. Table 3.7 highlights information from the 20-year permit renewals for the 1A Wellfield and the 2A/NRW. Beginning in 2013, the SFWMD is requiring transitioning of water supply above the baseline allocation from the Biscayne Aquifer to the Floridan Aquifer or to another alternative water supply such as the C-51 reservoir project. This requirement for shifting of additional water supply to an alternative source will have implications for future treatment technology and capital investment, as well as operating costs. As additional water supplies are needed, the Utility will evaluate the available water treatment technologies and their associated fiscal and environmental factors in making treatment decisions. The Utility's current CIP includes use of the Floridan Aquifer for future alternative water supply. Should a lower cost alternative become feasible, the Utility retains the flexibility to reduce or eliminate use of the Floridan Aquifer.

Table 3.7 Summary of SFWMD Wellfield Permits as of September 30, 2011

Description	Wellfield 1A	Wellfield 2A/NRW	Wellfield SRW
Permit Period:			
Issuance	4/10/2008	3/13/2008	10/10/2002
Expiration	4/10/2028	3/13/2028	10/10/2007[1]
Total Allocations:			
Annual Average Daily (MGD)	13.9	22.1	14.2
Maximum Monthly (MGD)	15.2	24.3	-
Maximum Day (MG)	-	-	22.4
BISCAYNE AQUIFER WITHDRAWALS			
Initial Period:			
Thru	4/1/2013	3/1/2013	[1]
Annual Average Daily (MGD)			[1]
Maximum Monthly (MGD)			[1]
Subsequent Period:			
Thru	4/10/2028	3/13/2028	[1]
Annual Average Daily (MGD)	9.2	17.5	[1]
Maximum Monthly (MGD)	9.9	19.2	[1]
FLORIDAN AQUIFER WELLS			
Annual Average Daily (MGD)	4.7	4.6	[1]
Maximum Monthly (MGD)	5.3	5	[1]
Number of Wells	4	4	-
Diameter (Inches)	16	16	-
Depth (Feet)	1200	1200	-
To Be Implemented By[2]	2013	2013	-
Proposed Implementation Date Modification	2017	2017	-

Permit for SRW expired October 2007. An application was submitted for permit renewal and is under review by SFWMD while sub-regional solutions for Hallandale Beach and Dania Beach are determined. Regardless of the SFWMD's ultimate resolution of the sub-regional issues, it is expected that the SRW permit will be renewed in the ordinary course of events.

2. Due to demand management efforts and lower growth, the implementation dates for alternative water supply will be extended.

Source: Broward County Water and Wastewater Services

Long term water supply in South Florida will also be affected by the Everglades Restoration Project and by regional water supply planning undertaken by the SFWMD and the U. S. Army Corps of Engineers (ACOE). The effect of these plans will be a reallocation of historical water supplies to secure additional fresh water for restoration of the Florida Everglades. Current planning documents known as the Lower East Coast Water Supply Plan (LECWSP), and the

Comprehensive Everglades Restoration Plan (CERP) account for future needs of water utilities by utilization of new surface water reservoirs, and by implementation of Aquifer Storage and Recovery (ASR) wells. A decision by the State to endeavor to acquire the property owned and farmed by US Sugar as part of the CERP may limit the option of utilities to store and use excess stormwater as an alternative to water supply.

It is possible that the new water supply technologies could be delayed, or could be less effective than SFWMD and ACOE expect. Recognizing this, the Utility has taken multiple steps to assure that a continuous adequate raw water supply is available:

- The County has been actively participating in the LECWSP, the CERP and the SFWMD regulatory revision process.
- A new surface water pump station is being designed to improve the effectiveness of the existing raw water recharged by three existing pump stations through the canal system.
- The County has constructed and operates a 10 MGD wastewater reuse facility to support potable water demand reduction.
- The County continues to implement the Integrated Water Resources Plan (IWRP) in order to maximize the utilization of available water. Current projects include the design of interconnects between the C-1 and C-2 Canals and between the C-12 and C-13 Canals.
- The County is planning an alternative technology in case an alternate source of water may be necessary. As previously noted, it is currently expected that the Floridan Aquifer is the most likely alternative raw water supply source. The Floridan Aquifer is an artesian water supply located approximately 700 feet below the land surface in the County. Waters within the Floridan Aquifer contain higher total dissolved solids than the waters of the Biscayne Aquifer. Reverse osmosis membrane technology will readily treat Floridan Aquifer water to meet all applicable regulatory requirements. The Floridan Aquifer is presently used by a number of utilities, primarily by the Town of Jupiter, Palm Beach County Utilities, and the City of Hollywood. Costs for future use of the Floridan Aquifer are shown in Table 6.2 under “Water Treatment”.

3.5 Overview of the Water System Facilities

District 1

District 1 has a combined service area of 11.99 square miles, permitted plant capacity of 16.0 MGD, and 241.71 miles of water distribution and transmission mains. WWS maintains District 1 water system interconnections with the systems of the City of Fort Lauderdale, the City of Tamarac, and the City of Lauderhill to provide for emergency water supply.

District 2

District 2, includes the Utility's largest wholesale water customer, the City of Coconut Creek. The District, not including the City of Coconut Creek, has a service area of 14.79 square miles, a permitted plant capacity of 30 MGD, and contains 244.47miles of water distribution and transmission mains. The facilities of District 2 are interconnected with the City of Deerfield Beach, the Town of Hillsboro Beach, the City of Pompano Beach and Palm Beach County to provide for emergency water supply.

The County has an agreement with the City of Coconut Creek under which the County has agreed to provide the City of Coconut Creek with potable water for a term that exceeds by one year the last payment of any potable water system debt obligation of the County or 2040, whichever is less. The City of Coconut Creek constitutes approximately 20% of the total potable water consumption by customers of the Utility, and pays compensation amounting to 4.6% of the Utility's gross revenues. The agreement provides that, except by written consent of the County, the City of Coconut Creek will not purchase water other than from the County or pump water into its water distribution system from its own facilities. The County has agreed not to sell water to anyone else within the defined service area and the City of Coconut Creek is not permitted to increase its water service area without the written consent of the County.

District 3

District 3 is the southernmost service area of the County and is geographically separated into subdistricts referred to as 3A, 3B, and 3C. Subdistricts 3B and 3C are interconnected. 3A, 3B and 3C receive potable water through connections principally with the City of Hollywood. District 3 has a combined service area of approximately 14.21 square miles and contains 213.26 miles of transmission and distribution mains. Subdistrict 3A has interconnects with the City of Fort Lauderdale, the City of Hollywood, and the City of Dania Beach to provide for emergency water supply. Subdistrict 3B has interconnects with the City of Hollywood. Subdistrict 3C has interconnects with the City of Hollywood, the City of Pembroke Pines and the City of Miramar to provide for emergency water supply.

3.6 Visual Inspection and Review

The visual inspections of the District 1 water treatment plant, District 2 water treatment plant and District 3 water treatment plant were performed on April 24 and 25, 2012. These inspections were performed by Milian, Swain & Associates, Inc. accompanied by WWS staff.

Water Treatment Plant 1A

WTP 1A was originally constructed in 1960 with a treatment capacity of 3.0 MGD, which was expanded to 10.5 MGD in 1979, and finally to 16.0 MGD in 1994. Overall, the plant is in very

good condition as a result of the 1994 expansion and improvement project. Water quality standards were maintained at WTP 1A throughout the year.

During the visual inspection of the plant, all equipment was operating in a satisfactory manner. The plant is clean and well maintained. The following summarizes the observations resulting from the inspection:

Plant modifications performed through December 2011:

- Installation of two (2) new constant speed transfer pumps (No. 2 & No. 3) from the east clear well (ongoing).
- Modification of piping from the transfer pump room to the storage tank.
- Installation of baffling to increase contact time at east clear well (ongoing).
- Installation of 24-inch and 36-inch piping from the east transfer pump room to existing and proposed storage tanks.

The plant modifications to be initiated for FY 2012:

- Dismantling of the 0.3 MG steel tank (2012-2013).
- Construction of a new 1.0 MG concrete storage tank.
- Structural repairs to Treatment Unit No. 1 (ongoing).
- Continue to work towards achieving the 4-log virus credit for underground rule (ongoing).
- Rebuild filters No. 5 thru No. 8 and replace piping and media.
- Replacement of sludge re-circulating pumps No. 1 and No. 2 at Treatment Units 1 and 2.
- Rehabilitate receiving tanks, dryer tanks and filtrate pumps at vacuum filters.
- Replacement of VFD for Pump No. 2 at high services pump room in Building No. 5.
- Replacement of existing communication tower.
- New site lighting improvement project.

Water Treatment Plant 2A

The WTP 2A was originally constructed in 1975 with a treatment capacity of 20 MGD. In FY 1994, the treatment capacity was expanded to 40 MGD with permitted capacity of 30 MGD. Water quality standards were maintained at WTP 2A throughout the year.

During the visual inspection of the plant, all mechanical and electrical equipment were operating in satisfactory condition and well maintained.

Plant modifications performed through December 2011:

- Recoating of flume filters No. 5 and No. 6 wall to stop leaks.
- Installation of a recarbonation system for the water treatment process.
- Replace the VFD for High Service Pump No. 6 at building No. 9.
- Construction of concrete pad for the carbon dioxide tanks.
- Construction of an open concrete roof structure to house the sodium hypochlorite tanks.
- Construction of day tank containment and metering room for the hypochlorite tanks.

Plant modifications to be initiated for 2012:

- Correction of surface cracks on filter exterior walls (ongoing).
- Installation of lighting improvements for the plant (ongoing).
- Rehabilitation of wells No. 7, No. 8 and No. 9 and relocation of well No. 4 (ongoing).
- Transfer Pump No. 1 will be sent out to be rebuilt.
- Replacement of chemical feed pumps (ongoing).
- New site lighting improvement project.
- Implementations of flume filter wall pipe penetration (ongoing).
- Replacement of backwash tanks (ongoing).
- Rehabilitation of switch gear at high service pump room at building No.1 (ongoing).
- Replacement of lime slacker No. 1 (ongoing).
- Plans to construct a new 5MG storage tank (ongoing).
- Replacement of weirs and louvers at Treatment Unit No.1 (ongoing).
- Continue to work towards achieving 4-log virus credit for underground rule (ongoing).
- Thickener No. 2 out of service to be resealed.
- Thickener No. 1 out of service for routine maintenance.
- Replacement of slacker with Seamen at chemical room.
- Chlorine room with one ton cylinders to be dismantled upon completion of sodium hydrochloride testing.

Water Distribution System 3A

In December 2001 the City of Hollywood began providing water for resale to the County in System 3A. Then re-pumping facilities consisting of high service pumps supplying the 3A distribution system which includes the Fort Lauderdale / Hollywood International Airport were constructed at the site of the former WTP 3A.

Planned modifications to the plant for FY-2013:

- Demolition of the existing treatment plant and adjacent plant building.
- Construction of a new 3.5 mg storage tank.
- Construct new chemical feed system.
- Construct new building to house new generator.
- Construct a new by-pass system.
- Implementation of new site lighting system.

The existing chlorine equipment appears in fair condition but in good working order.

The overall distribution facility is well maintained and operating properly.

Water Distribution System 3B and 3C

The 3B distribution system water supply is fed primarily by the City of Hollywood through two (2) 12-inch potable water interconnect treatment stations located at the City's south system perimeter (on Pembroke Road at Park Road and at S.W. 57th Avenue). Another connection from the City of Pembroke Pines supplies water to the North Perry Airport perimeter. The County maintains a 2.5 MG storage tank and high service pumps and an emergency generator, all in very good condition. These facilities are remotely monitored and controlled via SCADA equipment/instrumentation.

During the visual inspection of plant 3B it was reported that Pump No. 2 had been rebuilt; also Pump No. 1 was out of service due to repairs to the VFD. The pump room, electrical controls and generator equipment are in good condition and operating properly. Overall the facility is very well maintained.

The 3C repump facility currently consists of a 2.0 MG concrete tank and three (3) high service pumps, VFD controls, sodium hypochlorite disinfection system and emergency standby diesel engine with generator housed in a brand new concrete building structure. The facility is equipped with a SCADA system to allow staff to monitor and control the facility operation remotely. The entire site is fenced with a decorative fence in the front of the facility and a standard 6-feet chain link fence on the sides and back of the property.

During the visual inspection of plant 3C it was observed that all three high service pumps were in service and in good operating condition. The electrical controls, generator equipment, storage tank and disinfection system were found to be in good condition.

The ammonia system previously reported as being down for repair is now in operation.

3.7 Overview of the Retail Wastewater System Facilities

District 1

District 1 has a service area of 12.98 square miles and includes 164.05 miles of gravity collection sewers and 69 lift stations. There are 37.00 miles of force mains.

District 2

The size of the District 2 service area is 15.58 square miles. The collection system consists of 154.59 miles of gravity sewer, 94 lift stations, 4 master pump stations, and 33.71 miles of force mains.

District 3

District 3 serves an area of 12.07 square miles. The gravity collection system has 76.94 miles of gravity sewer and 61 lift stations. The force main network contains 33.65 miles of pipe that delivers the wastewater from this area to the Southern Regional Wastewater Treatment Facilities operated by the City of Hollywood. District 3A and District 3B wastewater is treated by the City of Hollywood under a large user wastewater agreement with the County. The County has 5.3 MGD of reserved capacity in the Southern Regional Wastewater Treatment Plant. The City of Hollywood has 48.75 MGD of plant capacity. One (1) of the master pump stations is located within District 3.

The agreement between the County and the City of Hollywood contains a number of major provisions including: identification of the service area; requirements for the use of metering devices; reserve capacity requirements; restrictions on excessive flows; and charges for damages to the system. Debt service and operation and maintenance costs are paid on an actual flow basis. The agreement can be terminated by either party with a 365-day notice, if all financial requirements have been met. The City of Hollywood may not terminate the agreement, unless there shall be a readily available alternative means of treating and disposing of County wastewater.

3.8 Visual Inspection and Review

Lift Stations

There are a total of 224 lift stations operated by the County. A representative (21) lift stations were inspected by Milian, Swain & Associates, Inc. on April 17 and 26, 2012. Overall, the lift stations inspected appeared to be efficiently operated and well maintained, and the mechanical and electrical components (control panels, variable frequency drives, motor control centers,

generators, telemetry units, pumps, pipes, and accessories) appeared to be in good condition unless noted. The following serves to summarize the observations made during the visual inspection of the lift stations:

LS 10B This lift station is in fair condition. The interior wet well wall is sealed coated, but the interior piping is showing signs of light corrosion and need to be re-coated. The valve vault and piping are also sealed coated and in fair condition. The electro-mechanical equipment is in good condition. This station is equipped with a SCADA system and is fenced for security.

LS 10D This lift station is in good condition. The wet well wall is sealed coated and in good condition. The interior piping and fittings appear to have been replaced. The valve vault interior walls are sealed coated and in good condition; also the piping is sealed coated and showing no signs of corrosion, but some fittings need re-painting. The 4" wet well vent needs to be painted. The electro-mechanical equipment is also in good condition. This station is equipped with a SCADA system.

LS 20C This Lift station is in good condition. The wet well walls is sealed coated and in good condition. The interior piping has light corrosion, but in good condition. The valve vault and piping are also sealed coated and in good condition. The electro-mechanical equipment appears in good condition. This station is equipped with SCADA system and is fenced for security.

LS 21D1 Lift station appears in fair condition. The wet well wall is sealed coated but the coating is in fair condition. The interior piping is showing signs of heavy corrosion and needs to be painted. The valve vault interior walls are sealed coated and in good condition. The valve vault bottom is gravel but free of standing ground water. The piping are sealed coated and show no sign of corrosion. The electro-mechanical equipment appears in good condition. This station is equipped with SCADA system and is in good condition.

LS 21H This Lift station appears in good condition. The wet well is sealed coated but the coating is peeling off the wall. The interior piping has light corrosion and need to be sealed coated. The valve vault is also sealed coated and in good condition. The valve vault piping is showing signs of light corrosion and need to be re-painted. One of the check valves appears to have been replaced and need to be repainted. The electro-mechanical equipment appears in good condition. The station is equipped with SCADA system and is in good condition. The 4" wet well vent needs to be painted.

LS 23A Lift station is in fair condition. Wet well interior wall coating is peeling off and needs to be re-sealed. The interior piping is showing signs of light corrosion and should also be re-painted. The valve vault walls and piping are in good condition with no sign of corrosion on the pipes. The electro-mechanical equipment appears in good condition. This station is equipped with a SCADA system.

LS 23H Lift station appears in good condition. The wet well structure and interior piping appear in good condition. The valve vault interior wall paint is peeling off and should be re-painted. The valve vault piping is sealed coated and in good condition. The electrical conduit from the wet well need to be sealed at the

control panel. The electro-mechanical equipment appears in good condition. This station is equipped with SCADA system.

LS 24E5 Lift station appears in fair condition. Wet well interior wall needs to be re-sealed. The interior piping is showing signs of corrosion and needs to be re-painted. The 4" wet well vent needs to be re-painted. The valve vault interior wall coating is peeling and needs to be re-sealed. The piping is sealed coated, but showing some signs of light corrosion and need a coat of paint. The electro-mechanical equipment appears in good condition. Station is equipped with a SCADA system.

LS 30A This lift station is in good condition. The interior wall of the wet well is sealed coated and appear in good condition. The interior discharge piping were replaced and needs to be painted. The valve vault interior walls are sealed coated, and the piping are also coated and in good condition. The valve vault has about 12"of ground water standing in it. The valve vault needs to drain into wet well. The electro-mechanical equipment is in good condition. This station is equipped with a SCADA system. The wet well vent is missing the top cover.

LS 30E This lift station is in poor condition. The wet well structure is leaking at the lower section and need to be sealed. The interior piping is in fair condition. The valve vault walls are sealed coated, and also the piping are sealed coated but in fair condition. The two check valves have been replaced. The electro-mechanical equipment is in fair condition. This station is equipped with a SCADA system. 4"wet well vent needs painting. This station floods during heavy rains and is due to be rehabilitated.

LS 30F This station is in good condition. The wet well interior wall and piping are sealed coated and show no signs of corrosion on the piping but in good condition. The valve vault interior walls and piping are also sealed coated and in good condition. The electro-mechanical equipment is in good condition except for the conduits leading from the controls to the wet well needs to be sealed. The wet well vent needs to be painted. This station is equipped with a SCADA system and fenced for security.

LS 30G1 This lift station is new and in good condition. The wet well interior wall and piping are sealed coated and in excellent condition. The valve vault interior walls and piping are also sealed coated and in good condition. The electro-mechanical equipment is in good condition. This station is equipped with a SCADA system and is fenced for security.

LS 30G3 This lift station is in good condition. The wet well interior walls and piping are sealed coated and in good condition. The valve vault and piping are also sealed coated and in good condition. The electro-mechanical equipment is in good condition. This station is equipped with SCADA system.

LS 31A2 This lift station is in good condition. The wet well interior wall is sealed coated and in good condition. The interior piping appears in good condition with no signs of corrosion. The valve vault structure appears in good condition, but the bottom is built on gravel with no standing water. The piping in the vault is showing signs of light corrosion and needs a fresh coat of paint. The electro-mechanical equipment is in good condition. This station is equipped with a SCADA system.

LS 31F2 This lift station is in good condition. The wet well structure and interior piping are in good condition and show no signs of corrosion on the pipes and fittings. The valve vault interior walls are sealed coated and in good condition. The piping is showing signs of corrosion on the plug valve. The check valves appear to have been replaced and need to be painted. The electro-mechanical equipment is in good condition. This station is equipped with a SCADA system.

LS 45D Lift station is in fairly good condition. The wet well interior walls are sealed coated. The interior piping have lightly corrosion but in good condition. The valve vault piping is sealed coated with no signs of corrosion. The electrical conduits from the wet well to the control panel needs to be sealed coated to prevent gases from entering controls. The electro-mechanical equipment is in good condition. The station is equipped with SCADA system.

LS 50F This station is in good condition. The wet well interior wall is sealed coated and is in good condition. The interior piping is showing signs of light corrosion and need to be re-painted. The valve vault walls and piping are also sealed coated and in good condition. The electro-mechanical equipment is also in good condition. This station is equipped with a SCADA system and fenced for security.

LS 50J Lift station is in good condition. This wet well is square in shape and is sealed coated, but the coating is peeling off the walls and should be re-sealed. The interior piping is showing light corrosion and should be re-painted. The valve vault walls and piping are sealed coated and in good condition. The electro-mechanical equipment is in good condition. This station is equipped with SCADA system and fenced for security.

LS 50K This lift station is in good condition. The wet well is rectangular in shape and in good condition, but need to have the wall re-sealed. The interior piping and the pump guide rails are in good condition. The valve vault and piping are sealed coated, with the exception of the check valve and plug valves that appear to have been replaced with new valves and need to be painted. The electro-mechanical equipment is in good condition. This station is equipped with a SCADA system.

LS 51A2 This lift station is in good condition. The wet well structure and interior piping appear in good condition. The valve vault interior walls are not sealed coated, but in good condition. The piping is sealed coated, but showing signs of light corrosion and need to be re-painted. The cam lock is missing from the pump out connection. The electro-mechanical system is in good condition. This station is equipped with a SCADA system and is fenced for security.

LS 56B Lift station is in good condition. The wet well interior walls and piping are in good condition with no signs of corrosion on the piping. The valve vault interior walls and piping are in good condition. The electro-mechanical equipment is in good condition. The station is equipped with a SCADA system.

Section 4 Regional Wastewater System

This section describes the North Regional Wastewater System (NRWWS) including the service area, visual inspection and review of the renewal and replacement program.

4.1 General Description

The Utility owns and operates the North Regional Wastewater Treatment Plant (NRWWTP), which has provided contract wholesale wastewater services to 11 large users plus the County since 1974. The large users include the Cities of Coconut Creek, Coral Springs, Deerfield Beach, Lauderhill, North Lauderdale, Oakland Park, Pompano Beach, Tamarac; and, North Springs Improvement District (NSID), Parkland Utilities, and Royal Utilities. Service is also provided to WWS Districts 1 and 2 retail wastewater systems. The NRWWS includes 15 master pumping stations and approximately 98 miles of force mains. All of the wastewater collected from retail Districts 1 and 2 and large user customers is treated at the NRWWTP located in Pompano Beach, Florida. The plant has a permitted treatment capacity of 84 MGD. The recent expansion project increased plant treatment capacity to 95 MGD, of which 87.015 MGD has been reserved by the large users and the County. During Fiscal Year 2011, the annual average daily flow rate at the NRWWTP was approximately 59.6 MGD, and the plant currently has sufficient capacity to meet the projected demands of all large users and the County to at least the year 2035.

The large user agreements are substantially similar. Each is for a term that exceeds by one year the last payment of any wastewater system debt obligation applicable to the NRWWS. In addition to stipulating points of connection and establishing minimum quality limitations on all wastewater, the agreements designate reserve capacity in the plant for each user and provide for the method to charge each user for the availability and provision of service. The agreements also require the large users to deliver all wastewater collected to the County. On a monthly basis, each user is billed a fixed charge depending upon the user's reserve capacity in the plant. This fixed charge is designated to recover each large user's equitable share of debt service including coverage (1.2x principal and interest). The operation and maintenance costs associated with provision of treatment and transmission service, also billed monthly to each large user, are based upon the large user's pro rata usage of the NRWWS. Additionally, the contracts provide restrictions on excessive and peak flows, limitations on types of waste allowed to be discharged and requirements to pay for damages caused by a large user.

The NRWWTP was designed and constructed in accordance with a master plan approved by regulatory authorities specifically to encourage the use of regional, technologically advanced wastewater treatment processes and to discourage development and use of smaller, less efficient systems. A difficult permitting process, outstanding contractual obligations with the County, and high capital costs of constructing and operating a new facility should discourage

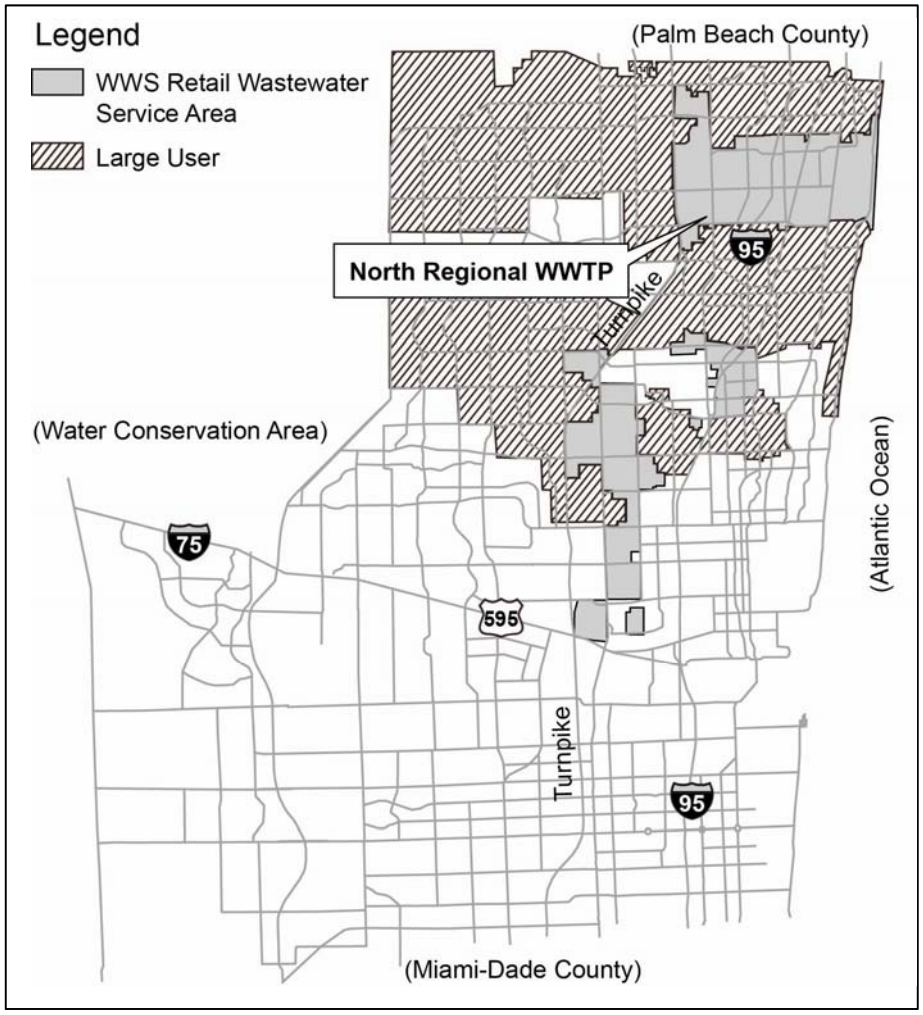
any large users from abandoning the NRWWS. The agreements as executed by the large users are binding and can only be terminated upon mutual consent of the County and the large user.

The NRWWTP utilizes an activated sludge treatment process for liquid treatment and an anaerobic digestion system for handling the biosolids produced from the liquid treatment process. After digestion, the sludge is dewatered and disposed of by landfilling and landspreading. The effluent from the liquid treatment process is chlorinated and either pumped through the outfall pipe into the Atlantic Ocean, disposed of in on-site deep injection wells, or filtered via the County's 10 MGD reclaimed water system. The reclaimed water is used for irrigation and industrial process water at the North Resource Recovery Plant (Solid Waste Incinerator), the Septage Receiving Facility, and the NRWWTP, and for landscape irrigation at a nearby commerce center.

Service Area and Customer Base

Figure 4-1 shows the NRWWS service area. All of the wastewater collected from retail Districts 1 and 2, and all large user customers, are treated at the NRWWTP located in Pompano Beach, Florida.

Figure 4-1 WWS Wastewater Large User Service Areas



The NRWWS service area provides service to 40 percent of the population in the County. In addition to providing treatment service to the County's retail customers in Districts 1 and 2 (District 3 treatment is provided by contract with the City of Hollywood at the South Regional Wastewater System), the NRWWTP provides treatment to 11 large users plus the County. Service is provided pursuant to individual, contractual agreements between the County and each large user. Generally, such agreements specify each large user's reserve capacity in the plant and provisions for billing and payment for service. As noted, the large users and WWS have currently subscribed to 87.015 MGD of the 95 MGD of treatment and disposal capacity.

Table 4.1 provides a summary of historical large user wastewater flow rates for treatment and disposal. The reserve capacity for each large user of the NRWWS is shown in Table 4.2. Table 4.3 provides information on the wastewater annual flows for the past five years. While some of the large users individually may be utilizing high percentages of their reserve capacity, collectively the large users will not exceed permitted plant capacity. Hence, such individual wastewater flows do not constitute a liability issue from the standpoint of plant capacity.

Table 4.1 Summary of Historical Large User Wastewater Average Monthly Flow for Treatment and Disposal (1,000 Gallons)

Large User	FY 2009[1]	FY 2010[1]	FY 2011[1]	Change From Prior Year	% of Change
Coconut Creek	102,452	109,675	106,383	(3,292)	-3.00%
Coral Springs	255,782	261,008	209,733	(51,275)	-19.65%
Deerfield Beach	213,446	213,438	168,219	(45,219)	-21.19%
Lauderhill	184,215	181,413	166,710	(14,703)	-8.10%
North Lauderdale	99,543	82,375	89,867	7,492	9.10%
NSID	81,508	80,336	82,665	2,329	2.90%
Oakland Park	53,526	61,731	44,097	(17,634)	-28.57%
Parkland Utilities	5,601	6,651	6,220	(431)	-6.48%
Pompano Beach	367,407	385,597	374,685	(10,912)	-2.83%
Royal Utilities	9,831	8,980	7,500	(1,480)	-16.48%
Tamarac	195,063	201,687	220,223	18,536	9.19%
Subtotal	1,568,374	1,592,891	1,476,302	(116,589)	-7.32%
Broward County	414,413	394,804	337,189	(57,615)	-14.59%
Total	1,982,787	1,987,695	1,813,491	(174,204)	-8.76%

[1]The infiltration and inflow programs, water conservation efforts and water restrictions have reduced water sales and the amount of water returned to the wastewater system.
Source: Broward County Water and Wastewater Services

Table 4.2 North Regional Wastewater System Reserve Capacity as of September 30, 2011 (MGD)

	Capacity	
Large User	**Treatment**	**Transmission**
Broward County	19.42	19.42
Coconut Creek[1]	6.54	4.41
Coral Springs	9.79	9.79
Deerfield Beach	8.50	8.50
Lauderhill	7.10	7.10
NSID	3.53	3.53
North Lauderdale	4.40	4.40
Oakland Park	1.52	1.52
Parkland Utilities	0.27	0.27
Pompano Beach[1]	17.00	N/A
Royal Utilities	0.45	0.45
Tamarac	8.50	8.50
Total	**87.02**	**67.89**

[1] *All of Pompano Beach and portions of Coconut Creek do not use the North Regional Wastewater System transmission facilities.*

Source: Broward County Water and Wastewater Services

Table 4.3 Summary of Large User Wastewater Treatment Annual Flows Five-Year History as of September 2011 (1,000 Gallons) [1]

Large User (LU)	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009	Fiscal Year 2010	Fiscal Year 2011
Coconut Creek	1,336,757	1,259,011	1,229,427	1,316,095	1,276,592
Coral Springs	2,762,105	3,096,615	3,069,385	3,132,096	2,516,794
Deerfield Beach	2,145,876	2,680,185	2,561,348	2,561,252	2,018,628
Lauderhill	2,107,495	2,219,783	2,210,581	2,176,961	2,000,517
North Lauderdale	1,218,069	1,169,616	1,194,511	988,496	1,078,407
NSID	927,497	1,003,282	978,100	964,037	991,983
Oakland Park	439,333	449,973	642,310	740,767	529,162
Parkland	87,728	93,272	67,215	79,808	74,642
Pompano Beach	4,944,777	4,918,370	4,408,880	4,627,160	4,496,220
Royal Utilities	75,659	102,307	117,969	107,764	90,004
Tamarac	2,298,144	2,307,154	2,340,756	2,420,243	2,642,672
Total LU	**18,343,440**	**19,299,568**	**18,820,482**	**19,114,679**	**17,715,621**
Broward County	5,913,178	5,856,469	4,972,950	4,737,647	4,046,268
Total LU and County	**24,256,618**	**25,156,037**	**23,793,432**	**23,852,326**	**21,761,889**

[1] *The infiltration and inflow programs, water conservation efforts and water restrictions have reduced water sales and the amount of water returned to the wastewater system.*

Source: Broward County Water and Wastewater Services

4.2 Wastewater System Regulatory Requirements

Operations of the NRWWTP are regulated by the EPA, the Florida Department of Environmental Protection (FDEP), and the Broward County Environmental Protection and Growth Management Department. Regulatory requirements are focused on effluent management, sludge disposal, reclaimed water, and an industrial pretreatment program.

In Fiscal Year 2011, the North Regional Wastewater Treatment Plant (NRWWTP) had no permit violations. The NRWWTP is in compliance with effluent quality standards; fifty-one (51) parameters are checked daily to assess conformance with these standards, amounting to 21,922 parameter checks in the year. During Fiscal Year 2011, there was one (1) limit excursion, or only 0.004 percent of the total checks at the NRWWTP. This excursion was the result of the automatic system feed loop that did not adjust quickly enough to maintain the permitted residual range in the effluent.

4.3 Wastewater Effluent Management

The NRWWTP currently disposes of treated effluent via an open ocean outfall pipeline, a reclaimed water system and deep injection wells. The open ocean outfall is regulated through the Federal National Pollutant Discharge Elimination System (NPDES) permit program, and is administered by the FDEP. Injection to the deep wells is permitted by the FDEP Underground Injection Control Section.

Open ocean outfalls are utilized by several south Florida utilities. Concerns over possible environmental impacts exist and have been the subject of extensive study such as the Southeast Florida Ocean Outfall Experiments (SEFLOE) I and II conducted by the National Oceanic and Atmospheric Administration (NOAA). The SEFLOE studies indicated that there has been no unreasonable degradation or irreparable harm of the ocean environment. WWS is currently participating in a joint study with NOAA titled the Florida Atlantic Coastal Environment (FACE) study. The County has executed a memorandum of understanding with NOAA for a Coastal Water Quality Monitoring Plan, which will involve monthly monitoring of water quality associated with the ocean outfall discharges. Work began in June, 2010.

The County's facility permit from the FDEP rates the NRWWTP at 84 MGD and acknowledges 66 MGD of effluent disposal capacity through the ocean outfall. Broward County submitted an application to the FDEP on August 2, 2007 for the renewal of the NPDES/Facility Permit for the NRWWTP, which expired on February 2, 2008. The NRWWTP is currently operating under an administratively extended NPDES/Facility Permit until the FDEP issues the new permit accompanied by an order establishing a compliance schedule consistent with recently enacted legislation. The application has been preliminarily reviewed by the FDEP and issuance of the facility permit is anticipated in the next calendar year. The range of estimated capital improvement costs associated with complying with the as-yet-uncertain regulations is described in Section 6.7.

The FDEP continues to promote a reduction of nutrients in the face of opposition to ocean discharges from interested groups, but they have worked with the wastewater utilities with ocean outfalls (including Broward County) to reduce the economic impact of the Leah Schad Memorial Ocean Outfall Program, which became the law effective July 1, 2008. Subsequent legislation has been proposed each year to amend the law. Proposed legislation reflects agreements reached between the FDEP and affected outfall utilities. It is noted that there is no assurance the legislation will be adopted or that additional legislation relating to outfall utilities will not be introduced or adopted. Proposed revisions would include the following changes to the current law:

- Extends the date for discharges of domestic wastewater through an ocean outfall to meet advanced wastewater treatment and management (AWTM) requirements from December 31, 2018 to December 31, 2020.

- Allows peak flow backup discharges not exceeding 5% of the facility's cumulative baseline flow, measured on a 5-year rolling average and requires that such discharges meet the FDEP's applicable secondary waste treatment and water-quality-based effluent limitations.

- Extends certain planning and reporting compliance dates.

- Requires the detailed plan that an outfall utility must submit to FDEP to identify technically, environmentally and economically feasible reuse options, and to include an analysis of the costs associated with meeting state and local water quality requirements, and comparative costs for reuse using outfall flows and other domestic wastewater flows.

- Requires the detailed plan to evaluate reuse demand in context with several factors considered in the South Florida Water Management District's (SFWMD) Lower East Coast Regional Water Supply Plan.

- Requires FDEP, SFWMD and the outfall utilities to consider the above information for the purpose of adjusting, as needed, the reuse requirements, and requires FDEP to report to the Legislature any changes that may be necessary in the reuse requirements by February 15, 2019.

In order to meet the advanced wastewater treatment requirements of the rule, the County has implemented cumulative nutrient reduction strategems including modifying the existing treatment process to augment biological nutrient removal and reducing outfall discharges via diversion to the existing deep injection well system.

As noted, the effluent management system also includes Class I injection wells. The Operation Permit 0051336-502-UO for Injection Wells 1 through 6 was issued on July 2, 2010 and is valid for five (5) years. This permit requires the installation of a new monitoring well (number 5) to replace monitoring well number 4, because its lower zone no longer appears to be a reliable source of data. This determination was made based on the modified monitoring protocols and data collected under the permit 0051336-439 UO administrative order. Work began in January 2012.

The County's effluent management program currently includes a 10 MGD system providing highly treated reclaimed water for industrial and landscape uses. Due to state law, the County will be required to increase production of reclaimed water by 2025. Long term effluent management improvements include combinations of injection wells, Biscayne Aquifer recharge, Floridan Aquifer recharge, offsite large user reuse, and residential reuse. An increase in the consumptive use permit raw water allocation for the water treatment facilities may be authorized by the SFWMD when effluent management results in the potential beneficial reuse of the reclaimed water.

4.4 Biosolids Management

Pollutant concentrations in wastewater residuals are regulated by both federal and state sludge regulations. The federal regulation that currently regulates disposal is 40 CFR Part 503. The

Part 503 rule regulates five categories of wastewater residuals disposal: agricultural land application, non-agricultural land application, distribution and marketing, monofills and surface disposal. WWS currently employs landfilling (20,000 tons per year) and landspreading (60,000 tons per year) for wastewater residuals disposal. H & H Liquid Sludge Disposal, Inc. is under contract to dispose of biosolids by landspreading. The contract extends to October, 2012, after which the contract will be re-bid and awarded to the lowest responsible bidder.

The County is currently managing most biosolids by land application of the treated residuals. Land application is a beneficial reuse of this wastewater treatment byproduct and is subject to both federal and state regulations. The County produces Class B residuals allowable for application to non-food agricultural sites.

In August 2010, revisions to the state regulations governing the treatment and disposal of biosolids, Chapter 62-640 F.A.C., went into effect. The NRWWTP will become subject to the new regulations upon renewal of the facility's operating permit, anticipated to occur in 2012. Additionally, all land application sites must be permitted under the new regulations by January 1, 2013. It is anticipated that the existing land application site will be eliminated, however, alternate sites exist. While land application continues to be an option, permitted sites will likely be at greater distances, potentially making hauling to new disposal sites more costly. The County has secured alternate disposal capacity at a nearby Class I landfill and continues to investigate cost-effective long-term biosolids management alternatives. Disposal at the landfill meets all current federal, state, and local regulations and since the landfill cogenerates electricity from its methane gas production, this disposal option is currently the most carbon neutral.

4.5 Wastewater Large User Agreements

The County is under obligation to provide large users with capacity under the terms of Large User Agreements (Agreements) it has executed with the cities of Coconut Creek, Coral Springs, Deerfield Beach, Lauderhill, North Lauderdale, Oakland Park, Pompano Beach, and Tamarac; and the North Springs Improvement District, and the private utility companies of Parkland Utilities, Inc. and Royal Utilities, which provide for wastewater transmission, treatment and disposal services. The Agreements terminate at the end of the County's fiscal year following the date all obligations, notes or bonds at any time issued for the NRWWTP and associated transmission and disposal facilities, or any part thereof, are retired or satisfied. The current large user reserved capacity in the NRWWTP is set forth in Table 4.2.

The Agreements are substantially alike in form and a brief summary of significant provisions follows:

A. Provisions Pertaining to Connection to the County System. The Agreements require that during the term of the Agreement, each user except the City of Oakland Park will deliver all existing water flows collected by it to the County. Oakland Park sends a portion of their flow to the City of Ft Lauderdale's wastewater treatment plant. The Consulting Engineers are of the opinion that a difficult permitting process, outstanding

contractual obligations with the County and high capital costs of constructing and operating a new facility should discourage any defection of users from the NRWWS.

The Agreements also identify the points of connection of the users' systems to the County's system, and state that the user will convey to the County land needed by the County for the point of connection and access thereto. The users agree to maintain their own systems, the elevation and pressure of which are required to be sufficient to deliver wastewater to the County's facility without backing up or reversing flow. The users' systems must include provisions to prevent excessive peak flow rates and extended periods of no flow. Each of the users must list in the Agreement estimates of its future flow projection and the user must submit annual updates of these estimates to the County. The County is required to use these estimates to plan future treatment capacity and to determine whether facilities should be extended or modified. The County's obligation to provide service is limited to the capacities reserved by users, which may be increased or decreased by amendment or modification to the Agreements. The Agreements allow users to lease or sell excess capacity to other users, subject to the County's approval. The County is required to install and maintain a meter at each point of connection to determine the volume and rates of flow and to inspect the meters at least annually to determine the accuracy thereof. The Agreements provide for credits or additional charges in the event of the inaccuracy of the meters. If the meters are inoperative, the users are required to pay an amount based on the average flow of the prior month.

B. Provisions Relating to Discharge Sampling. The Agreements specify quality limitations for wastewater discharges. A user's failure to comply with these limitations places the user in default under this Agreement and allows the County either to initiate programs to bring the user's discharge into compliance at the user's expense or to seek damages from the user. A user's system must include a sampling station and the user must upon receipt of written request from the County submit a complete laboratory analysis of a composite sample of combined wastes leaving the user's facilities. The County and the user may enter into an agreement whereby the County would accept an industrial waste of unusual strength. The County may surcharge high strength industrial waste received from large user systems.

C. Provisions Pertaining to Charges. The County is required to conduct an annual review of the costs of providing service to users, which will provide the preliminary basis for establishing fees, rates and other charges for the next succeeding fiscal year. The fees and rates charged to the users constitute the full cost of the transmission, treatment and disposal service provided to the users, including operation and maintenance charges and debt service charges for both the NRWWTP and the NRWWS transmission facilities, and include an Improvement Repair and Replacement Surcharge. Such fees, rates and charges are required to be set at a public hearing by the Board, which is required to be held after 30 days written notice to the users. The Board is required to consider recommendations of the individual users or the advisory board, which is composed of representatives from each of the users. The operation and maintenance charges applicable to the NRWWTP or the transmission system are included in the

monthly rate charged to the users based upon the users' actual monthly flow in thousands of gallons. The rate is to be set by dividing the total annual budgeted operation and maintenance expense for each fiscal year by the number of gallons estimated to be treated or transmitted in that fiscal year, and is to be adjusted at year end to reflect the actual number of gallons treated and actual operation and maintenance expense. This adjustment is either collected from, or remitted to, the large users in the subsequent year.

The debt service charge included in monthly rates charged to the large users include principal, interest and coverage requirements on debt obligations issued at any time for the NRWWS and is computed by determining the ratio of the amount of capacity reserved by the user to the amount reserved by all users. The debt service charge for the NRWWS transmission facilities is computed by reference to transmission reserved capacity in the same manner. A user's contribution to the Improvement, Repair and Replacement Surcharge, which is part of the monthly rate charged to users, may not exceed 10 percent of that user's monthly bill. In addition, the Agreements provide for additional charges in the event that a customer requests additional transmission or treatment capacity or in the event that the monthly flow of a user exceeds the capacity reserved by such user for three consecutive months. A user that fails to pay the monthly bill within 45 days of its due date is required to pay an interest penalty on the unpaid balance; and if the payment is not made within 60 days, the user is in default of the Agreement and the County may enforce the Agreement by suit. The users agree to establish service charges or other means of obtaining funds sufficient to enable them to pay the monthly charge.

D. Provisions Pertaining to Additional Obligations of Both Parties. The Agreements provide that the County will extend and expand its NRWWS to provide for the user's scheduled flow. The users must deliver their wastewater to the County facilities for treatment and the County must accept all wastewater flows collected by the users, provided the amount of such flow does not exceed the capacity reserved by such users.

E. Provisions Pertaining to Violations and Exceptions to the Terms of Agreements. If a user violates the Agreement, the County must give written notice of the violation and allow a reasonable time to correct the violation. The user must correct the violation within the stated time. If either party violates the Agreement, that party becomes liable to the other for any expense, loss or damage occasioned by such violation; provided that any payment by the County to a user for violation of any provision of the Agreement shall be from any legally available source other than the revenues pledged to any bondholders. If there is a dispute concerning a violation that cannot be settled, the user will pay the full amount billed, and the amount in dispute will be escrowed or held in a joint trust, interest-bearing bank account and held pending settlement of such dispute. Each user agrees to hold the County harmless from costs and expenses incurred by such user or the County in any litigation resulting from the improper introduction of materials by such user into the County facility. Any temporary cessation of wastewater transmission and treatment services caused by an act of God, a fire, strikes, casualty, necessary maintenance work, breakdown of or injury to machinery, pumps or pipeline

shall not constitute a breach of the Agreement. The County is required to accept and dispose of wastewater transmitted by the users, if physically possible, regardless of the degree of treatment available, until written notice to the contrary is received from a government agency.

F. Provisions Relating to the Term of the Agreements and Cancellation. The users and the County were bound by the Agreements at the date of their execution. The County and each user may terminate their Agreements by mutual written consent. Otherwise, the Agreements terminate at the end of the County's next full fiscal year after all obligations issued at any time during the term of the Agreements for the NRWWS have been retired or satisfied.

4.6 Visual Inspection and Review

North Regional Wastewater Treatment Plant

The visual inspection of the NRWWTP was performed on April 27, 2012. Since the last report most of the expansion construction to the plant have been completed and are operational. The visual inspection indicates that the plant is well maintained and operated properly.

Plant modifications performed through December 2011:

- Replacement of aerator blades at D-1 MOD and D-4 MOD.
- Rehabilitation of plant Lift Stations No. 1 and No. 2.
- Repair RAS pumps at E-3 and D-3 MOD.
- Replacement of skimmers at No. 4 DAFT.
- Repair aeration weirs at A-3 and A-4 MOD.
- Removal of sand and replacement diffusers at C-MOD.

Plant modifications to be initiated for FY 2012 and FY 2013:

- Replacement of liquid Rheostat 5.
- Install drive at clarifier D-3 MOD.
- Repair RAS pumps at the E-3 and D-3 MOD.
- Repaint the monitoring wells (ongoing).
- Repair aeration weirs at A-1 and A-2 MOD.
- Repair and repaint Boilers No.1, No.2 and No.3 at south complex (ongoing)
- Repair and repaint Boilers No.4, No.5, No.6, No.7 and No.8 at the north complex (ongoing).
- Replace pump and shredder at No.7 slot
- Replacement of Generator No.4.

- Replacement of VFD at Drive No.2 at injection well building.
- Replacement of control panel for outfall effluent pumps.
- Replacement of the VFD for two water cool injection wells No.1 and No.3 (ongoing)
- Eliminate evaporators at the chlorine facility; change piping and add two scales.
- Chevron Project (ongoing).
- Replacement of cover at P3 Digester.
- Replacement of aerator shroud at B-2 Basin.
- Replacement of clarifier drives at D-2 and D-3.
- Repair or replace effluent Pump No. 3 and No. 6.
- Replacement of Monitoring Well No. 5.
- Add skid for chlorine injection system for clarifier rings at A, B and C MOD.
- Repaint aeration weirs at A1 thru A6 steel structure.
- Replacement of 20 underground reuse values throughout the plant.

Septage Receiving Facility

The Septage Receiving Facility receives waste from septic tank pump outs, portable toilets, vacuum trucks, grease traps, leachate from landfills, etc. The waste is separated into three categories: liquids, solids and truck washout water. The equipment which must be maintained includes grinders, transfer pumps, a diesel generator set, biofilters and miscellaneous valves.

The septage receiving facility was inspected on April 27, 2012 and from the visual inspection the facility was found to be well maintained.

Facility modifications performed in FY-2011:

- Bio filter system was rebuilt and media was replaced.
- Two pumps were replaced in the onsite lift station, in addition to installation of new valves and piping in the station.
- Isolation valves were exercised and they are holding.
- Reuse Booster Pump was replaced.
- Check valves in the pump pit were replaced.
- New plug valves were installed.
- Replaced one pump in the dry well.
- Jersey Barriers in the North drying bed were replaced and anchored to the concrete.
- Cat walk installed over piping in pump pit.
- Air release lines were installed on each pump.

- Spray water lines were repaired in the liquid bay.
- New sump pump was installed in the pump dry pit area.

The proposed modifications to be initiated for FY-2012-2014:

- Demolition of existing equipment, fencing and access ways as required.
- Installation of aerator grid chambers.
- Repair existing septage receiving station, including rehabilitating of the wet well, replacement of cover and removal of non-working equipment.
- Installation of biofilter odor control system.
- Site lighting improvements, landscaping and irrigation system.
- Installation of Pump Station to NRWWTP with tie-in to existing force main.

Master Lift Stations

Five (5) Master Lift Stations representative of the sizes and ages of master lift stations throughout Broward County were inspected on April 17 and 26, 2011. Overall, the lift stations inspected appeared to be efficiently operated and well maintained. The mechanical and electrical components (control panels, variable frequency drives, motor control centers, generators, telemetry units, pumps, pipes, and accessories) appeared to be in good condition.

LS 224 This master lift station is in good condition. The wet well interior walls are sealed coated, but the coating is peeling off and needs to be re-coated. The interior piping is sealed and in good condition. Interior walls of the valve vault are sealed coated and in good condition. The valve vault has gravel bottom and had about 12” of ground water standing in the bottom. The check valves and plug valves appear to have been replaced. The electro-mechanical equipment is in good condition. The station is equipped with a SCADA system. The above ground piping is painted and in good condition.

LS 450 This master lift station is located on the site of Water Treatment Plant 1A and the building structure appears in good condition. This station was rehabilitated and No. 3 pump and motor were replaced. Pumps No. 1 and No. 2 were operating and in good condition. The electrical room appears in good condition. The emergency generation at this master lift station was removed from the building and the station will receive emergency power from the main generator from the on-site water treatment plant. This station has an adjoining wet well that receives from the collection system. The interior walls of the building need a fresh coat of paint. This building structure is equipped with a storm roll down shutter for hurricane protection.

LS 456 This master lift station consists of a building structure with adjoining wet well that appear in good condition. The station consists of two (2) pumps and a spare one

for replacement if needed. The pumps and piping are painted and well maintained. The electrical control appears in good condition. The standby generator and related components are also in good condition. The building is equipped with roll down shutters for hurricane protection. The station is equipped with a SCADA system and is fenced for security.

LS 458 This master lift station consists of a building structure with an adjoining wet well that is well maintained. The station is equipped with three (3) pumps in good operating condition. Pump No. 3 had the plug valve replaced and plans are to also replace the plug valve at pump No. 2. The air release valves were replaced on all three pumps. The generator and related equipment appear in good condition. The electrical control panel appears in good condition. The interior and exterior walls of the building are painted and in good condition. This master lift station is fenced for security.

LS 460 The master lift station is in good condition. The interior walls need to be repainted due to paint peeling off the walls. Pump No. 3 and motor were replaced or repaired and need to be repainted. The motors for Pumps 1 and 2 appear to have been replaced or repaired, and need to be repainted. The valve activation and control panels are new and were installed last year. The electrical control equipment appears in good working condition. The generator equipment appears to be in good working condition. This station has no wet well. It receives direct flow from the City of Coral Springs. The exterior wall paint of the building is in good condition.

Section 5 Regional Raw Water Supply

There are currently two wellfields operated by Broward County as part of the regional system, the North Regional Wellfield (NRW) and South Regional Wellfield (SRW). This section describes the regional raw water supply system, including the large users, physical descriptions, and permit limitations.

5.1 General Description

The Biscayne Aquifer, currently the County's primary source of drinking water, is subject to saltwater intrusion. In 1986, the County adopted the Regional Raw Water Supply (RRWS) Program, which called for centralized wellfields located further inland to ensure a long term water supply for Broward County. Under the program, new wellfields and raw water delivery systems were financed, constructed and are operated as a regional system for large users. Large users are Dania Beach, Deerfield Beach, Hallandale Beach, Florida Power and Light Corporation, Hollywood and WWS District 2. The wellfields were constructed using general County revenues and the assets were contributed to the Utility. Figure 5-1 depicts the regional wellfield locations and service areas. Physical descriptions of the NRW and the SRW are presented in Tables 5-1 and 5-2.

Figure 5-1 Regional Raw Water Service Areas

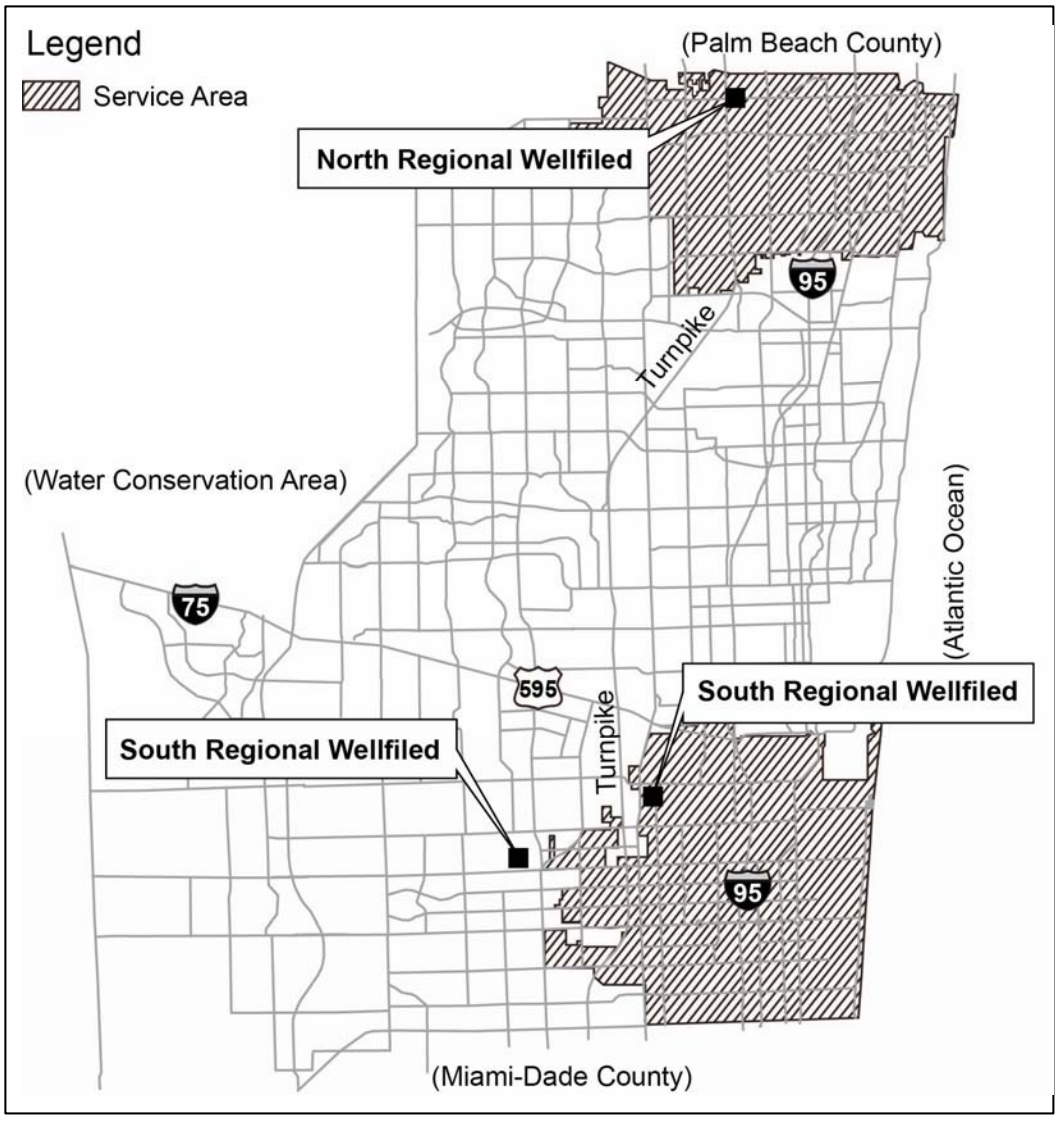


Table 5.1 NRW Physical Descriptions

Wellfield	Well No.	Size (in)	Depth (ft)	Casing Depth (ft)	Type of Casing	Normal Yield (GPM)	Capacity (GPM)	Service Status
NRW	1	20	170	112	PVC	1400	1400	ON LINE
NRW	2	20	130	116	PVC	1400	1400	ON LINE
NRW	27	20	130	95	PVC	1400	1400	ON LINE
NRW	29	20	130	94	PVC	1400	1400	ON LINE
NRW	30	20	121	92	PVC	1400	1400	ON LINE
NRW	31	20	121	92	PVC	1400	1400	ON LINE
NRW	32	20	120	88	PVC	1400	1400	ON LINE
NRW	33	20	121	92	PVC	1400	1400	ON LINE
NRW	45	20	112	94	PVC	1400	1400	ON LINE
NRW	46	20	170	131	PVC	1400	1400	ON LINE

Table 5.2 SRW Physical Descriptions								
Wellfield	**Well No.**	**Size (in)**	**Depth (ft)**	**Casing Depth (ft)**	**Type of Casing**	**Normal Yield (GPM)**	**Capacity (GPM)**	**Service Status**
SRW	5	20	110	75	PVC	2083	1400	*OFF LINE
SRW	6	20	110	75	PVC	2083	1400	ON LINE
SRW	17	12	115	81	PVC	2800	2800	ON LINE
SRW	18	12	140	80	PVC	2800	2800	ON LINE
SRW	19	12	140	80	PVC	2800	2800	ON LINE
SRW	20	12	140	80	PVC	2800	2800	ON LINE
SRW	21	12	140	80	PVC	2800	2800	ON LINE
SRW	22	12	140	80	PVC	2800	2800	ON LINE
SRW	23	12	140	80	PVC	2800	2800	ON LINE
SRW	24	12	140	80	PVC	2800	2800	ON LINE

*Offline due to salt intrusion.

5.2 North Regional Wellfield

The NRW includes 10, 2-MGD wells and approximately 30,000 linear feet of pipeline, ranging from 12-inches to 48-inches in diameter. A permit application combining the District 2A retail wellfield and NRW permits was approved by the SFWMD and issued in March 2008. The permitted capacity of the 2A/NRW is 24.3 MGD maximum month and 22.1 MGD annual average day. The permit expires in the year 2028. The well casings at the NRW are set in the Biscayne Aquifer at a depth of approximately 100 feet below land surface. The NRW has two emergency generators capable of powering pumps for six wells. Usage data for the NRW are presented in Table 5.3.

Table 5.3 Large User Actual Flow North Regional Raw Water Flow Distribution (1,000 Gallons)

Fiscal Year	Deerfield	BC2A	Total
FY 2007	218,280	2,338,418	2,556,698
FY 2008	217,800	2,303,290	2,521,090
FY 2009	216,400	2,280,890	2,497,290
FY 2010	220,694	2,299,487	2,520,181
FY 2011	201,111	2,926,030	3,127,141
GRAND TOTAL	1,074,285	12,148,115	13,222,400

5.3 South Regional Wellfield

The SRW includes eight 4-MGD wells, one 2-MGD wells and approximately 79,000 linear feet of transmission pipeline, ranging in size from 20 inches to 42 inches in diameter. Six wells have the ability to run under permanently installed auxiliary generator power with three wells being connected to one generator. The remaining wells have connections for a portable generator. The permitted capacity of the SRW is 22.4 MGD maximum day and 14.2 MGD annual average day. The permit expired in October 2007 (and is currently administratively extended), and the application submitted for permit renewal is under review by the SFWMD. Permit reissuance is expected in the normal course of events. Well 6 was formerly associated with WTP 3A. The well casings at the SRW are set in the Biscayne Aquifer at a depth of approximately 100 feet below land surface. Usage data for the SRW are presented in Table 5.4. All wells in the SRW have PVC casings.

Table 5.4 Large User Actual Flow South Regional Raw Water Flow Distribution (1,000 Gallons)

Fiscal Year	Hallandale	Hollywood	Dania	FPL	Total
FY 2007	877,010	2,410,180	359,270	592,240	4,238,700
FY 2008	1,288,330	2,190,930	384,970	637,940	4,502,170
FY 2009	1,392,030	1,632,870	348,470	567,210	3,940,580
FY 2010	1,401,787	1,539,507	433,268	479,590	3,854,152
FY 2011	1,316,530	1,634,700	590,960	526,280	4,068,470
GRAND TOTAL	6,275,687	9,408,187	2,116,938	2,803,260	20,604,072

5.4 Contractual Agreements

The contractual agreements with each of the large users are substantially similar and run for an indefinite period of time. The exception is the City of Hollywood agreement which has a four-year term with an automatic renewal for four years unless otherwise terminated. The large user agreements provide for a method to charge each user a pro rata share of system operations and maintenance costs. Historical and projected revenues for the raw water system are noted in Table 7.6 and generally represents less than one percent of Utility revenues. As noted, the capital costs of system construction were funded using general County revenues.

5.5 Large Users

The North and South Regional Wellfields serve different areas in Broward County. The NRW serves the City of Deerfield Beach and the County‘s District 2. The SRW serves the Cities of Dania Beach, Hollywood, and Hallandale Beach and Florida Power and Light.

5.6 Regional Raw Water Supply Regulations

The volume of raw water withdrawal from the Utility’s regional raw water supply wellfields is regulated by the SFWMD. Each wellfield is governed by a water use permit that stipulates the raw water maximum allowable annual and daily withdrawals. These permits are reissued for periods of five to 20 years. The permit for the combined 2A/NRW was issued in March 2008 for a 20-year period. The application for the South Regional Wellfield has been filed. The Utility has responded to permit application review comments from the SFWMD and has coordinated the review of this application with the raw water permitting needs of the Cities of Hallandale Beach and Dania Beach. Because the SFWMD permit terms and conditions are dependent on the issuance of the Hallandale Beach water use permit, SFWMD has indicated that the SRW permit will not be issued until after the Hallandale Beach permit is issued in the near future.

For wells that are in service, the County operating personnel regularly monitor pH, alkalinity, hardness, iron, chloride, color, standard plate count (SPC), coliforms, quarterly wellfield protection monitoring and annual analysis to comply with the SDWA. All water quality parameters are regulated by the FDEP.

5.7 Visual Inspection and Review

North Regional and South Regional Wellfields

Visual inspections of the County's regional wellfields were performed on April 24 and 25, 2012 by Milian, Swain & Associates, Inc. The findings of these inspections are summarized below.

North Regional Wellfield

Overall, the NRW was observed to be in good operating condition and well maintained. During the inspection it was observed that all piping and well head were painted and well maintained. All wells are on line.

Well #1 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility is in good condition. Paint on piping is in good condition, but light corrosion on well head flange. New A/C planned for FY-2012 or 2013. Electrical controls and generator are in good condition. A new muffler and flex pipe have been added to the generator. In addition, a new air release valve was added.

Well #2 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility in good condition. Piping and well head paint is in good condition. Electrical controls in good condition.

Well #27 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility in good condition. Well head and piping paint in good condition. Electrical controls in good condition. New air release valve on discharge pipe.

Well #29 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility in good condition. Paint on piping and well head in good condition. Electrical controls in good condition. New flow meter installed on discharge pipe.

Well #30 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The

seals at top of well casing and wellhead are in good condition. Well facility in good condition. Well head and piping in good condition. Electrical controls in good condition. Flow meter removed from well head for repair.

Well #31 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility in good condition. Paint on well head and piping in good condition. Electrical controls in good condition. New flow meter installed on discharge pipe.

Well #32 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility with generator in good condition. Piping and well head paint is in good condition. Electrical controls in good condition. New A/C planned for FY-2012 or 2013. New muffler and flex pipe installed on generator.

Well #33 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility in good condition. Paint on well head and piping in good condition. Electrical controls in good condition.

Well #45 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Pump and motor replaced in 2011. Well facility in good condition. Paint on well head and piping in good condition. Electrical controls in good condition.

Well #46 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility in good condition. Paint on well head and piping is in good condition. Electrical controls in good condition.

South Regional Wellfield

The SRW was also observed to be in good operating condition and well maintained with exceptions listed below. One well was off line. During the visual inspection Milian, Swain & Associates, Inc. noted exceptions to some of the wells and recommends that the following be performed:

Well #5 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility in fair condition. Well is out of service due to salt intrusion.

Well #6 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The

seals at top of well casing and wellhead are in good condition. Well facility in fair condition. Ductile iron piping needs a coat of paint. The bottom of the wall structure needs to be pressure cleaned. Electrical controls in good condition.

Well #17 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility in good condition. Well head and piping need a fresh coat of paint due to corrosion. Electrical controls in good condition. Flow meter out for repair.

Well #18 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility with generator in good condition. Piping and well head paint in fair condition, should be repainted. Electrical controls in good condition.

Well #19 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility in good condition. Well head is showing signs of light corrosion and need a fresh coat of paint. Electrical controls in good condition.

Well #20 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility in good condition. Well head and piping need a fresh coat of paint due to light corrosion. Electrical controls in good condition. Well needs to be pressure cleaned to remove heavy rust stains on the piping and walls.

Well #21 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility with generator appears to be in good condition. Well head and piping need a fresh coat of paint due to light corrosion. Well needs to be pressure cleaned to remove heavy rust stains on the piping and walls. Electrical controls in good condition. Flow meter out for repair.

Well #22 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility in good condition. Well head flange is showing signs of light corrosion and need a fresh coat of paint. Well needs to be pressure cleaned to remove heavy rust stains on the piping and walls. Electrical controls in good condition.

Well #23 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility in good condition. Piping and well head need a fresh coat of paint. Electrical controls in good condition. Well needs to be pressure cleaned to remove heavy rust stains from piping and walls.

Well #24 The well is inside a concrete vault with simplex submersible pump and controls. No sustained moisture was observed on the wellhead during the inspection. The seals at top of well casing and wellhead are in good condition. Well facility appears in good condition. Well head has light corrosion on top and bottom and needs painting. The paint on piping is in fair condition and also need to be repainted. Electrical controls in good condition. Well needs to be pressure cleaned to remove heavy rust stain on the piping and walls.

Section 6 Capital Improvement Program

This section includes descriptions of the five-year Capital Improvement Program (CIP) for the Retail Water and Wastewater Systems and the Regional Wastewater and Water Supply Systems.

6.1 Description of the Capital Improvement Program

As part of the growth management efforts mandated by State legislation, the County initiated planning efforts to accommodate future growth and compliance with regulatory requirements. The overall plan is periodically updated with the latest revision completed in 2004. The revision addresses the need for services and facilities based upon anticipated build out conditions of the service area in the year 2025. It is noted that the Utility conducts an annual CIP review process wherein all projects are thoroughly vetted, estimated and scheduled. Each review builds upon prior analyses and utilizes new planning data when available. Recent additional planning efforts include completion of the Alternative Water Supply Master Plan and the Effluent Disposal and Reclaimed Water Master Plan. The Effluent Disposal and Reclaimed Water Master Plan was approved by the Board of County Commissioners in 2011. The Alternative Water Supply Master Plan has been updated to include the 2010 US Decennial Census data.

As noted, the Utility develops a five-year CIP recognizing costs associated with the future growth and regulatory requirements. Table 6.1 presents the current CIP categorized by expenditure category. The Board approved the CIP for Fiscal Years 2012 through 2016 in September, 2011. The five-year CIP reflects the total estimated project costs for each project which is expected to be initiated within the five-year plan regardless of the estimated time required to design and complete construction of the project. Projects remain open until all related construction activities are complete. The budgets by capital project type through Fiscal Year 2016 are presented in Table 6.2.

Table 6.1 Capital Improvement Program as of September 30, 2011

Capital Budgets	Water Treatment	Water and Sewer Mains	Wastewater Treatment	Regional Transmission	Engineering Services & Misc.	Total
Unspent Prior Budget	$13,791,943	$90,223,266	$57,368,840	$8,880,567	$1,784,859	$172,049,475
2012	9,029,710	10,872,450	9,735,660	1,157,340	3,900,490	34,695,650
2013	4,537,100	11,832,310	38,575,000	3,008,000	3,701,670	61,654,080
2014	300,000	30,939,540	16,200,000	1,050,000	3,701,670	52,191,210
2015	37,300,000	12,156,640	84,259,830	300,000	3,701,670	137,718,140
2016	300,000	10,645,190	35,628,100	6,950,000	3,701,670	57,224,960
Totals	$65,258,753	$166,669,396	$241,767,430	$21,345,907	$20,492,029	$515,533,515
Five Year CIP Funding:						
Debt FY 2012-2016	$28,000,000	$60,000,000	$67,000,000	$5,000,000	$10,000,000	$170,000,000
Cash FY 2012-2016[1]	16,000,000	44,000,000	46,000,000	4,000,000		110,000,000
Beyond 2016[2]	21,258,753	62,669,396	128,767,430	12,345,907	10,492,029	235,533,515
Totals	$65,258,753	$166,669,396	$241,767,430	$21,345,907	$20,492,029	$515,533,515

[1] *Cash reflects net revenues, capital recovery charges, large user contributions, and grants.*

[2] *Reflects effects of construction period. It is currently expected that $280M of the $515M program will be spent by 2016. Since the construction period extends beyond 2016, the remaining $235M will be spent in subsequent years.*

Source: Broward County Water and Wastewater Services

Table 6.2 Capital Projects Budgets by Type Through Fiscal Year 2016

Water Treatment	**Budget**
Water Treatment Plant Expansion	$47,077,031
Water Treatment Plant IRR[1] Projects	$13,667,186
Energy Efficiency for Retail Facilities	$2,350,000
Security System Upgrades	$2,164,536
Water Treatment Subtotal	**$65,258,753**
Water Distribution and Sewer Collection	
Neighborhood Improvement Program (NIP)	$68,787,945
Local Utility Improvement Projects (UAZ)	$36,315,545
Misc. Main Improvements	$21,365,044
Potable Water Storage Improvements	$20,277,802
Lift Station Improvements	$19,923,060
Water Distribution and Sewer Collection Subtotal	**$166,669,396**
Wastewater Treatment	
NRWWTP Effluent Disposal /Treatment Enhancements	$193,622,060
Wastewater Plant IRR[1] Projects	$43,962,350
NRWWTP Ocean Outfall Improvements	$4,183,020
Wastewater Treatment Subtotal	**$241,767,430**
Regional Transmission	
Master Pump Station Improvements	$20,099,907
Force Main Extensions/Improvements	$1,246,509
Regional Transmission Subtotal	**$21,345,907**
Engineering/Misc. Services	**$20,492,029**
GRAND TOTAL	**$515,533,515**

[1] *IRR = Improvement, Repair and Replacement*

Source: Broward County Water and Wastewater Services

The estimated funding requirements for this five-year period ending Fiscal Year 2016 are expected to be met by net revenues, debt proceeds, capital recovery charges, contributions from large users, grants and future borrowings. The County currently anticipates cash financing at least 40 percent of the actual funding requirements. The proceeds of the Series 2012A Bonds will be used to finance a portion of the CIP. Many of the projects and improvements in the CIP are in the planning stages with cost estimates that are preliminary and contracts have not been awarded. The County plans to prioritize projects as needed to maintain an affordable rate structure. Proposed rates are annually presented to the Board for discussion at an August workshop with action taken at the September budget hearings. Current projections anticipate levelized rate

increases of approximately four percent annually through Fiscal Year 2016. The County estimates it will issue approximately $154 million in bonds in 2016 (the "Series 2016A Bonds").

The County reviews and updates the CIP annually and includes separate estimates for the Water and Wastewater Systems. The total cost of the CIP could vary from these annual estimates depending upon future demands, regulatory requirements, actual contract awards and other economic factors.

6.2 Retail Water and Wastewater System Improvements

The five-year CIP for the retail water and wastewater systems has the principal objectives of: rehabilitating or replacing water distribution systems and extending sanitary sewers to currently unsewered customers. The Multi-District Inflow and Infiltration Program is continuing with $8.1 million budgeted for repairs to the wastewater collection system. The estimated cost of these improvements totals approximately $167 million.

WWS began implementing local utility improvement projects, called Utility Analysis Zones (UAZ) in mid-2009. While the Neighborhood Improvement Program (NIP) included drainage, landscaping and sidewalk improvements, which were paid for from County general funds, UAZ's focus solely on water and sanitary sewer improvements. The total cost estimate for these improvements is nearly $275 million dollars over the next twenty plus years.

6.3 Water Treatment

The five-year CIP includes projects of approximately $65 million to improve the retail water treatment systems, which includes $47 million for the expansion of Water Treatment Plant 1A, and $13.7 million for improvement, repair and replacement (IRR) of process equipment and security improvements.

6.4 Neighborhood Improvement Program

The NIP was initiated by the County in 1993 to upgrade the infrastructure in what were unincorporated neighborhoods. The improvements include upgrades to the existing water and sewer system, installation of drainage, new pavement, swales, and landscaping. The total estimated cost of the program is approximately $742.8 million dollars. Approximately $394.5 million, or 53 percent of total cost, is for water and sewer upgrades of which approximately $315.3 million has been spent to date. The remaining 47 percent of total cost associated with sidewalk, drainage and landscaping improvements is being funded by the County's general fund. A summary of the NIP projects is listed on Table 6.3.

Table 6.3 Summary of Neighborhood Improvement Program as of September 30, 2011

Neighborhood Improvement Project	Total Costs All Improvements[1]	Percent Complete	Bid Packages	Number Completed	Under Const.
North County	$219,799,697	65%	15	8	5
South County and Riverland Village	117,719,334	100%	17	17	0
North Andrews Gardens	102,691,795	100%	9	9	0
Central County	124,711,020	94%	12	11	1
North Central County	72,111,300	91%	5	3	2
Broadview Estates	32,518,050	79%	2	1	1
Broadview Park	54,976,808	92%	4	2	2
Hillsboro Pines	11,010,000	1%	1	0	0
Twin Lakes South	7,253,725	5%	1	0	0
Program Total Costs	**$742,791,729**		**66**	**51**	**11**

[1] *Includes costs for water, wastewater, streets, sidewalks, drainage and landscaping improvements. Only water, wastewater and a portion of street costs ($388M) are funded by the Utility.*

Source: Broward County Water and Wastewater Services

The NIP encompasses an area the size of a medium city with 9,335 acres, 92,500 people and 28,555 homes. The planned improvements include 295 miles of roadways, 428 miles of sidewalk, and 623 miles of pipeline which will enable the elimination of 10,607 septic tanks. Construction started in 1996 and is currently scheduled to be completed in 2018. Of the 66 planned bid packages, 51 have been completed and 11 are in construction.

6.5 Local Utility Program

WWS began implementing local utility improvement projects by Utility Analysis Zones (UAZ) in mid-2009. Where the NIP included drainage, landscaping and sidewalk improvements, which were paid for from County general funds, the UAZ projects focus solely on water and sanitary sewer improvements. The total cost estimate for these improvements is nearly $275 million dollars over the next twenty plus years.

6.6 Other Including Mains, Lift Station Improvements and Potable Storage

The CIP includes $21 million for water and wastewater main improvement projects to address aging water and wastewater lines, increase transmission and distribution capacities, and to extend service to new customers. $20 million of potable water storage improvements are included for the purpose of replacing existing aging systems and enhancing water storage capacities to meet current and future demands. The CIP also includes $20 million of retail wastewater lift station rehabilitation projects to increase the reliability of the wastewater collection system and prevent the occurrence of sanitary sewer overflows.

6.7 Regional Wastewater Treatment

Under current regulations, the County is required to reduce the nutrient loadings discharged to the ocean outfall between 2009 and 2025, and to eliminate use of the outfall, except as a back-up discharge that is part of a functioning reuse system after December 31, 2025. These regulations may result in plant process improvement requirements with estimated costs ranging from $766 million to $889 million in accordance with the Effluent Disposal Master Plan. This range will be refined as alternatives are further evaluated to meet the regulatory requirements. The County has included approximately $194 million in the current 5 year CIP to start addressing these improvements to meet the future requirements. Various other system Utility Improvement Repair and Replacement (IRR) projects are budgeted at approximately $48 million and include digester improvements, grit removal improvements, control center upgrades, general replacements and repairs.

As noted in Section 4.3, certain legislative modifications to the Leah Schad Memorial Ocean Outfall Program ("outfall rule") have been considered by the State of Florida. These legislative changes, if adopted in the future, would lower the cost of outfall rule compliance by approximately $300M based upon calculations performed by Hazen and Sawyer, P.C. It is noted that there is no assurance that legislative changes will be adopted.

6.8 Regional Wastewater Transmission

The CIP includes a series of master pump station improvements to ensure adequate system capacity as well as reliability in the regional transmission system. The CIP anticipates investing approximately $20 million in improvements to the master pumping stations.

Section 7 Financial Conditions

This section describes financial operations of the utility; rates, fees and charges; revenue projections; a comparison of utility service costs with other utilities; and adequacy of insurance coverage.

7.1 Overview of Financial Operations

Operating and general maintenance costs of the retail portion of the Utility are recovered through service charges, connection charges, and miscellaneous fees and charges. Capital costs for system development, large maintenance projects, and renewal and replacement projects are funded through net revenues, bond proceeds, developer contributions, contributions from other municipalities, and capital recovery charges.

User charges and fees are developed by WWS and approved by the Board. The Board has specific legal authority to fix charges and collect rates, fees, and charges from its customers and to acquire, construct, finance, and operate the Utility. The existing rate structure for retail customers is based on meter size and consumption. The County, as a matter of policy, reviews revenue requirements on an annual basis and institutes required rate increases. Revised retail water and wastewater rates were approved by the Board in September 2011 and became effective October 1, 2011. These rates are presented in Tables 7.1, 7.2, and 7.3. The rate resolutions also address rates for irrigation, reclaimed water, septage, and high strength industrial wastewater surcharge, an emergency rate adjustment for water conservation during drought conditions, capital recovery charges per equivalent residential unit (ERU), customer deposits, and specific service charges. Capital recovery charges underwrite the investment in additional capacity needed to serve new (additional) customers.

Table 7.1 Broward County Water and Sewer Monthly Service Costs for a Residential Customer Using 5,000 Gallons per Month

Fiscal Year	Water Fixed Charge[1]	Water Volume Charge	Total Water	% Change From Prev. Year	Sewer Fixed Charge	Sewer Volume Charge	Total Sewer	% Change From Prev. Year	Total Water and Sewer	Total % Change From Prev. Year
2008	10.08	9.75	19.83	5.1%	13.99	13.50	27.49	5.2%	47.32	5.2%
2009	11.69	11.30	22.99	15.9%	14.55	14.05	28.60	4.0%	51.59	9.0%
2010	12.14	11.75	23.89	3.9%	15.43	14.90	30.33	6.0%	54.22	5.1%
2011	14.20	8.58	22.78	-4.6%	17.44	15.65	33.09	9.1%	55.87	3.0%
2012[2]	14.68	8.89	23.57	3.5%	17.44	16.60	34.04	2.9%	57.61	3.1%

[1] *Includes customer charge.*

[2] *Based on rates adopted by the Board effective October 1, 2011.*

Source: Broward County Water and Wastewater Services

Table 7.2 Broward County Schedule of Retail Rates Minimum Monthly Charges by Customer Class and Meter Size Effective October 1, 2011

Customer Class	Meter Size (inches)	Water ($)	Wastewater ($)
Residential, Commercial, Municipal and Institutional	5/8" Residential	10.54	17.44
	1" Residential	31.94	23.90
	5/8	16.66	18.83
	1	35.78	63.09
	1 1/2	70.63	125.91
	2	170.06	369.21
	3	496.00	852.83
	4	2,401.86	1,760.59
	6	8,172.26	13,333.15
	8	10,259.22	14,451.73
Sale for Resale	4 or less	2,401.86	-
	6	8,172.26	-
	8	10,259.22	-
	10+	47,944.50	-
Multi-Family and Mobile Home (per unit)	All sizes	8.15	12.60
Hotels and Motel (per unit)	All sizes	5.60	11.09
Recreational Vehicles (per unit)	All sizes	6.49	11.38
Private Fire Protection	All Sizes	114.00	-
Irrigation	5/8	14.16	-
	1	26.33	-
	1 1/2	75.75	-
	2	158.21	
	3	431.22	
	4	1,907.96	-
Reclaimed Water (based on 1,000 GPD demand and 20% discount on capital contribution)	All sizes	6.00	-

Source: Broward County Water and Wastewater Services

Table 7.3 Broward County Schedule of Retail Rates Volume Charge (per 1,000 Gals) by Customer Class and Meter Size Effective October 1, 2011

Customer Class (all Meter sizes unless noted)	Water		Wastewater	
	Volume (per 1,000 Gals)	Charge ($)	Volume (per 1,000 Gals)	Charge ($)
Residential	0-3	1.37	0 - 15	3.32
	4-6	2.39	Over 15	No Charge
	6-12	5.13		
	Over 12	6.84		
Commercial, Municipal and Institutional	0 - 75% of Avg. Consumption	3.42	All Volumes	3.32
	Over 75% of Avg. Consumption	6.84		
Sale for Resale	Water Treatment Charge	2.15	N/A	-
	Water Transmission Charge	0.08	N/A	-
Multi-Family and Mobile Homes (per unit)	0-3	1.37		
	4-6	2.39	0-8	3.32
	6-12	5.13		
	Over 12	6.84	Over 8	No Charge
Hotels and Motels (per unit)	0 - 75% of Avg. Consumption	3.42	All Volumes	3.32
	Over 75% of Avg. Consumption	6.84		
Recreational Vehicles (per unit)	0-3	1.37		
	4-6	2.39		
	6-12	5.13	0-8	3.32
	Over 12	6.84	Over 8	No Charge
Private Fire Protection	All Volumes	5.13	N/A	-
Irrigation				
5/8" meter	0-8	5.13	N/A	-
	Over 8	6.84	N/A	-
1" meter	0-22	5.13	N/A	-
	Over 22	6.84	N/A	-
1 1/2" meter	0-55	5.13	N/A	-
	Over 55	6.84	N/A	-
2 to 3" meter	0-142	5.13	N/A	-
	Over 142	6.84	N/A	-
Reclaimed Water	All Volumes	0.07	N/A	-

Source: Broward County Water and Wastewater Services

Since 1994, average residential use of water has decreased from 220 gpd (gallons per day) to 185 gpd. The decrease appears to be the result of ongoing water restrictions and the water conservation initiatives of Broward County and the SFWMD. Further study completed as part of the comprehensive Rate Study completed in fiscal year 2011 has indicated that the treatment plant must produce 206 gpd of water to deliver 185 gpd to the average residential customer. Converting this demand to the maximum average daily flow (a factor of 1.33x) yields the requirement of 274 gpd of plant capacity necessary to serve an ERU (equivalent residential unit). Similarly, the ratio of billed water to treated wastewater is 1.13x which yields the requirement of 209 gpd of wastewater treatment capacity per ERU. As a result of the rate study, the capital recovery charges effective FY2012 changed from $1,185 and $2,140 to $1,440 and $1,960 for water and sewer respectively. At the beginning of the NIP projects, the County adopted the policy of not charging for the first ERU for wastewater per customer.

Charges for large users of the NRWWS are defined by the large user agreements, and consist of charges for operation and maintenance costs assessed on the basis of flows, debt service costs assessed on the basis of reserve capacity, and improvement, repair, and replacement fund costs that are assessed as a percentage of other charges. The charges for operation and maintenance costs are adjusted annually to reflect each user's proportionate share of actual costs during the fiscal year.

7.2 Water and Wastewater Rates and Charges

Since 1994, the County has recognized advantages in encouraging retail customers to conserve water. At the time, the County established and has continued to use a rate schedule that sets higher water rates for levels of consumption beyond basic use. As a result of a rate study completed in 2010, an additional rate tier was added. The current rate schedule is composed of four tiers:

- Rates for basic use
- Rates for normal use
- Rates for discretionary use
- Rates for excessive use

As noted in Table 7.1, there will be an increase of 3.1% in the average monthly residential bill of 5,000 gallons from Fiscal Year 2011 to Fiscal Year 2012. Tables 7.2 and 7.3 show the minimum monthly fixed charges and volume charges for all customer classes based upon rates approved by the County which went into effect October 1, 2011. A five-year summary of billing volumes is shown in Table 7.4.

Table 7.4 Retail Water and Wastewater Billing Volumes as of September 30, 2011 (1,000 Gallons)

Fiscal Year Ended 9/30	Treated Retail	Coconut Creek	Treated Water Total	Wastewater
2007[1]	7,766,431	1,958,720	9,725,151	4,915,383
2008[1]	7,195,082	1,868,562	9,063,644	4,830,155
2009[1]	7,128,645	1,872,821	9,001,466	4,828,210
2010[1]	6,880,573	1,748,303	8,628,876	4,744,985
2011[1]	6,885,439	1,731,297	8,616,736	4,891,742

[1] *Droughts which began in April 2007 have resulted in reduced water use due to demand management efforts comprising water conservation initiatives, including year round lawn irrigation restrictions.*

Source: Broward County Water and Wastewater Services

In the event additional water restrictions are imposed, the County has instituted an automatic adjustment as noted in Table 7.5 to the water rate to encourage customers to reduce consumption. The automatic rate adjustment was adopted by the Board as a way to maintain the revenues required for operations while water consumption is curtailed. The SFWMD imposes phased restrictions as drought conditions warrant to achieve reduction of water used in increments of 15 percent for each phase.

With the automatic adjustment, the higher water rates established for larger consumption levels are applied at lower levels of consumption. The result is that customers who do conserve as required will experience a reduction in their water bills. Conversely, customers who fail to achieve reductions will pay even greater amounts for water consumed than they would otherwise pay without the adjustment. As targeted reductions increase, the associated levels at which increased rates become effective decrease.

Table 7.5 Automatic Rate Adjustments for Periods of Mandated Water Restrictions

Customer Class and Block	Restrictions Per Unit Per Month (1,000 gallons)		
	Standard	Drought	Extreme Drought
Single Family (all meter sizes)			
First Tier	0-3	0-2	1
Second Tier	4-6	3-5	2-4
Third Tier	7-12	6-9	5-6
Final Tier	Over 12	Over 9	Over 6
Multi-Family (per unit, all meters)			
First Tier	0-2	1	1
Second Tier	3-4	2-3	2
Third Tier	5-6	4-5	3
Final Tier	Over 6	Over 5	Over 3
Irrigation			
5/8" Meter, First Tier	0-8	0-4	0-2
5/8" Meter, Second Tier	Over 85	Over 4	0ver 2
1" Meter, First Tier	0-22	0-11	0-5
1" Meter, Second Tier	Over 22	Over 11	Over 5
1 1/2" Meter, First Tier	0-55	0-27	0-14
1 1/2" Meter, Second Tier	Over 55	0ver-27	Over 14
2" and Over Meter, First Tier	0-142	0-71	0-35
2" and Over Meter, Second Tier	Over 142	Over 71	Over 35
Commercial, Municipal, Institutional, Hotels, Motels and Recreational Vehicles			
First Tier	0-75%	0-60%	0-45%
Second Tier	Over 75%	Over 60%	Over 45%

Source: Broward County Water and Wastewater Services

The NRWWS large users' rates are reviewed and adjusted annually by the County as part of the budget process. The rates are based on the County's estimation of total costs and total flows. Debt service requirements (including required coverage) for the NRWWS are allocated to each large user in proportion to their reserved capacity. A surcharge of up to 10 percent is added to fund improvements, repairs and replacements to the NRWWS. Currently the surcharge is 5%. These funds are currently maintained separately from the Renewal, Replacement and Improvement Fund established by resolutions of the Board authorizing the issuance of bonds for the Utility (collectively, the "Bond Resolutions") to provide a reserve for the Utility.

Presently, the Renewal, Replacement and Improvement Fund is required by the Bond Resolution to maintain a minimum balance of five percent of the previous year's revenues, or a greater amount if recommended by the Consulting Engineer. Five percent of FY 2011 revenues is approximately $5.83 million. The current balance in the Renewal, Replacement and Improvement Fund is $5.83 million, as recommended by Hazen and Sawyer, P.C.

7.3 Revenue Projections

Annual water and wastewater revenues and expenditures for Fiscal Year 2011 are based on actual values from financial statements prepared as of September 30, 2011. Fiscal Year 2012 revenues and expenditures have been projected based upon the rates approved by the County, which were implemented October 1, 2011 in conjunction with estimated expenses for the year. Revenues for Fiscal Years 2013 through 2016 have been based on average annual number of customers, historical average consumption, and the retail service rates shown in Tables 7.2 and 7.3.

The Utility operates a mature system with limited future growth needs. Hence, growth rates in the retail water and retail wastewater system customer base beginning in Fiscal Year 2013 have been estimated at one percent annually for wastewater only. Operation and Maintenance costs are assumed to increase by an average of two percent annually for both water and wastewater beginning in Fiscal Year 2013. Retail rate increases from Fiscal Years 2013 through FY 2016 of approximately four percent per year for both retail water and wastewater are necessary to meet the projected revenues as presented in Table 7.6 and Table 7.7. The Board has not yet considered these rate increases. Should such rate increases not be approved, coverage would be reduced as presented in Table 7.7. The revenue forecast for the large users of the NRWWS have been projected to recover costs as defined under the large user agreement.

Table 7.6 shows historical and projected ratios of large user's (regional and resale) revenues to total revenues. Actual debt service in Table 7.7 for the Series 2012A, B and C Bonds is based upon an all-in true interest cost (TIC) of 4.02%, 2.96% and 1.55% respectively. Proposed Series 2016A debt service assumes a 5% interest rate per annum and maturities over a 25 year period, back-loaded to support levelized total debt service payments. In Fiscal Year 2011, the total revenues generated by the Utility were sufficient to meet the bond covenant requirement of 120 percent coverage of all debt service obligations. The audited financial statements at September 30, 2011 present the computation of debt service coverage on all outstanding revenue bonds as 1.75. In addition, a Balance Available for Renewal, Replacement and Capital Expenditures of approximately $22.5 million was generated during Fiscal Year 2011. Debt service coverage for Fiscal Year 2011 and projected values for Fiscal Year 2012 through Fiscal Year 2016 are presented in Table 7.7.

An estimate of interest income is projected annually from Fiscal Year 2012 through Fiscal Year 2016. Interest income is generated from three main sources: debt service reserve fund, general reserve fund, and investments of fund balances as permitted under the Bond Resolution.

Table 7.6 Historical and Projected Ratios of Large Users' Revenue to Total Revenues and Wastewater Revenues (in 1,000s)

	Historical					Projected				
	2007	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Total Revenues[1]	95,957	97,668	111,614	111,634	116,474	118,886	128,036	132,494	137,096	143,079
Large User Revenues[2] (Excluding Broward County)	25,764	25,883	29,943	31,361	30,660	33,459	38,462	39,120	39,797	40,195
Percentage Large User to Total Revenues	26.80%	26.50%	26.80%	28.10%	26.30%	28.10%	30.00%	29.50%	29.00%	28.10%
Regional Raw Water Revenues	1,155	983	1,076	833	820	1,008	1,028	1,049	1,070	1,091
Percentage Regional Raw Water Total Revenues	1.20%	1.00%	1.00%	0.70%	0.70%	0.80%	0.80%	0.80%	0.80%	0.80%
Sale for Resale/Water[3]	4,096	4,273	5,044	4,931	5,328	5,161	5,331	5,384	5,438	5,493
Percentage Sale for Resale Revenues to Total Revenues	4.30%	4.40%	4.50%	4.40%	4.60%	4.30%	4.20%	4.10%	4.00%	3.80%

Note:

[1] *Total Revenues do not include interest earned on the construction account.*

[2] *Projection of large user revenue is based upon estimated costs of the system and allocable share of debt service.*

[3] *Principally Sales to City of Coconut Creek*

Source: Broward County Water and Wastewater Services

Table 7.7 Schedule of Historical and Projected Net Revenues, Debt Service and Debt Service Coverage ($1,000)

	Historical					Projected				
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Revenues:										
Water	$35,846	$37,388	$42,305	$42,771	$45,114	$43,581	$46,432	$49,289	$51,229	$53,124
Wastewater	53,174	55,290	61,640	62,946	64,843	67,126	71,452	72,716	75,029	78,855
Other	4,121	3,481	4,451	4,159	4,947	6,662	8,555	8,892	9,241	9,452
Interest Income	2,816	1,507	3,218	1,758	1,570	1,517	1,597	1,597	1,597	1,597
Total Revenues	**$95,957**	**$97,668**	**$111,614**	**$111,634**	**$116,474**	**$118,886**	**$128,036**	**$132,494**	**$137,096**	**$143,029**
Current Expenses:										
Water Transmission & Distribution	$8,676	$8,189	$8,838	$8,962	$8,817	$8,646	$8,871	$9,049	$9,229	$9,414
Water Source of Supply, Treatment & Pumping	9,880	9,229	9,961	9,420	9,184	9,048	9,283	9,468	9,658	9,851
Wastewater Collection & Transmission	7,959	11,356	9,751	10,185	9,866	9,751	10,005	10,205	10,409	10,617
Wastewater Treatment	14,896	14,869	15,529	14,955	14,729	14,436	14,811	15,108	15,410	15,718
Customer Service	3,435	3,774	4,134	5,229	5,400	5,419	5,554	5,660	5,768	5,878
Administrative/General	14,093	15,156	16,576	16,736	15,947	15,895	16,308	16,634	16,966	17,306
Total Current Expenses	**$58,939**	**$62,573**	**$64,789**	**$65,487**	**$63,943**	**$63,195**	**$64,832**	**$66,123**	**$67,440**	**$68,784**
Net Revenues	**$37,018**	**$35,095**	**$46,825**	**$46,147**	**$52,531**	**$55,691**	**$63,204**	**$66,371**	**$69,656**	**$74,245**
Debt Service:										
Senior Lien Debt:										
Series 1988-A Bonds	$2,341	$2,380	$2,380	-	-	-	-	-	-	-
Series 2003 Bonds	5,063	5,062	5,061	5,867	5,868	3,340	1,047	-	-	-
Series 2003-B Bonds	8,434	8,393	8,291	9,970	9,970	9,080	8,188	-	-	-
Series 2005-A Bonds	3,837	3,837	3,837	3,837	3,837	3,147	2,457	2,456	2,457	2,457
Series 2009-A Bonds	-	-	5,361	10,324	10,324	10,322	10,324	10,326	10,321	10,328
Series 2012-A Bonds	-	-	-	-	-	3,219	8,252	8,252	8,252	8,251
Series 2012-B Bonds						2,623	5,523	5,523	5,523	5,523
Series 2012-C Bonds						283	1,706	10,941	10,945	10,940
Series 2016-A Bonds										4,708
Total Debt Service	**$19,675**	**$19,672**	**$24,930**	**$29,998**	**$29,999**	**$32,014**	**$37,497**	**$37,498**	**$37,498**	**$42,207**
Debt Coverage Senior Lien	1.88	1.78	1.88	1.54	1.75	1.74	1.69	1.77	1.86	1.76
Debt Coverage Senior Lien without Retail Rate Increase	N/A	N/A	N/A	N/A	N/A	N/A	1.60	1.60	1.61	1.49

Source: Broward County Water and Wastewater Services

7.4 Comparison of Utilities Service Costs for Municipalities and the Unincorporated Area in Broward County

Table 7.8 shows the current water and wastewater monthly service charges for residential customers of municipalities and the unincorporated area in the County, as well as Miami-Dade and Palm Beach Counties.

Table 7-8
Comparative Rate Survey as of 08/02/2011
(Based On Usage Of 5,000 Gallons Per Month)

Utility	Water	Sewer	Total
Davie	31.75	55.67	87.42
Dania Beach	30.20	52.80	83.00
Sunrise (outside City)	35.49	43.40	78.89
Margate	26.77	51.53	78.30
Wilton Manors	45.71	32.14	77.85
Parkland	22.58	47.67	70.25
Oakland Park	34.83	34.64	69.47
North Lauderdale	27.91	40.80	68.71
Hollywood	21.65	43.96	65.61
Sunrise	28.40	34.70	63.10
Coconut Creek	36.89	25.73	62.62
Pompano Beach (outside City)	30.10	32.20	62.30
Cooper City	24.41	37.04	61.45
Average Water & Sewer for Broward	**26.81**	**34.61**	**61.42**
Hallandale Beach	26.36	30.45	56.81
Broward County (WWS)	**22.78**	**33.09**	**55.87**
Royal Utility	25.54	29.75	55.29
Miramar	21.38	32.95	54.33
Tamarac	18.57	34.22	52.79
Deerfield Beach	28.25	24.53	52.78
Coral Springs	20.53	31.16	51.69
Pompano Beach	24.08	25.76	49.84
Plantation	18.91	30.17	49.08
Lauderhill			46.53
NSID	26.50	19.79	46.29
Pembroke Pines	21.21	24.56	45.77
CSID	22.69	22.69	45.38
Fort Lauderdale	16.20	27.17	43.37
Water Only			
Hillsboro	34.20		
Sewer Only			
Pembroke Park		38.45	
Lauderdale by the sea		32.19	
Tri-County Utilities			
Palm Beach County	17.76	21.75	39.51
Miami Dade County	8.85	17.60	26.45

7.5 Insurance Coverage

The bond covenants require that customary insurance be carried on the physical assets of the system. The property insurance carried by WWS on its physical assets is part of a County-wide policy with FM Global. The term of the present policy is from February 1, 2011 to February 1, 2012.

The policy automatically insures new assets up to $100 million per location, for 90 days; upon declaration, the policy limit applies.

The policy provides for coverage of underground mains (water, wastewater and gas) that are within 1,000 feet of a Scheduled Location as described in Appendix A of the FM Global policy. Under a County-wide policy limits of liability per occurrence are as follows:

2011-2012

FM Global **$705,000,000 Excess of $295,000,000** **Excluding Named Windstorm** **Earthquake Sublimited at $350,000,000**
FM Global **$95,000,000 Excess of $200,000,000** **All Risk Coverage** **Flood Sublimited $230,000,000**
Various Excess Carriers – See Participation Schematic **$60,000,000 Excess of $140,000,000** **All Risk Coverage**
Various Excess Carriers – See Participation Schematic **$40,000,000 Excess of $100,000,000** **All Risk Coverage**
FM Global **$100,000,000** **All Risk Coverage**
$20M - Airport, $25M- Port, $35M – ALL other **Maximum - $75M any one occurrence combined** **Named Windstorm Deductibles** **$50,000 All Other Perils Deductible**
LIMITS
Windstorm: $ 295,000,000 Each Occurrence **Flood: $ 230,000,000 Each Occurrence/Annual Aggregate** **Earthquake: $ 350,000,000 Each Occurrence/Annual Aggregate** **All Other Perils: $1,000,000,000 Per Occurrence**

In addition, approximately twenty (20) other insurance carriers provided a $100,000,000 (see blue above) All Risk (excluding Boiler & Machinery) layer excess of FM Global's primary layer of $100,000,000.

The four major aboveground water and wastewater facilities and their estimated value as of February, 2011 are as follows:

	FY 2011 Estimated Bldg Value ($1,000s)
NRWWTP Complex	$221,911
Water Treatment Plant 2 A	$ 58,403
Water Treatment Plant 1 A	$ 49,041
Water Distribution System 3 A	$ 13,471

The level of coverage (less deductible) is sufficient to fund the loss of the single most expensive asset, the NRWWTP Complex; although the potential for the complete destruction of this facility is minimal. Any losses in excess of the coverage amount would have to be covered by the County through its own resources or through federal or state emergency management assistance.

The worldwide economic crisis prompted a short-term firming of the market but only for catastrophe (CAT) exposed risks. The return of a more stable investment environment after the financial crisis of 2008 helped bolster capacity. This created a competitive market where underwriters cut pricing in many areas to retain or capture new business. Carriers continue to monitor their program aggregates in high CAT prone areas such as Broward County to limit windstorm exposure in defined geographic areas to predict worst-case scenarios of large loss payouts and their ability to recover financially.

Recent worldwide events are expected to cause reinsurance premiums to rise, although no one can predict by how much and when. Broward County is actively working on renewal of the policy, and it is expected that similar terms and coverage will be obtained with no material changes.

Appendix

Table A-1

Water Production, Wastewater Treatment, and Regional Raw Water

(Million Gallons)

	FY-2002	FY-2003	FY-2004	FY-2005	FY-2006	FY-2007	FY-2008	FY-2009	FY-2010	FY-2011
Water Production										
Plant 1A	3,077	3,026	3,158	3,210	3,147	2,977	3,059	2,835	2,865	2,635
Plant 1B	0	0	0	0	0	0	0	0	0	0
Plant 2A	5,447	5,574	5,913	5,752	5,568	5,179	4,599	4,571	4,555	4,572
Plant 3A	169	0	0	0	0	0	0	0	0	0
Plant 3B	0	0	0	0	0	0	0	0	0	0
Plant 3C	0	0	0	0	0	0	0	0	0	0
Broadview	0	0	0	0	0	0	0	0	0	0
Purchased Water From Municipality	2,563	2,615	2,571	2,831	2,568	2,608	2,486	2,597	2,203	2,204
Total Water Production	11,256	11,215	11,642	11,793	11,283	10,764	10,143	10,003	9,623	9,411
Wastewater Treatment										
North Regional WWTP	27,436	25,486	24,841	25,807	25,110	24,257	25,156	23,793	23,852	21,762
WW Flows to Hlwd. Regional Treatment	746	844	926	913	988	967	1,053	1,162	1,069	958
Total Wastewater Treatment	28,182	26,330	25,767	26,720	26,098	25,224	26,209	24,955	24,921	22,720
Regional Raw Water										
	5,514	5,297	6,247	5,668	6,597	6,795	7,023	6,438	6,374	7,196

Notes:

1. Water for 1B and Broadview produced by 1A.
2. Water for 3B/3C purchased from Hollywood (after October 15, 1996).

Source: Broward County Water and Wastewater Services

Table A - 2
Average Number of Accounts
As of September 30, 2011

Consumer & Meter Size (inches)	WATER			SEWER		
	Number of Units	Number of Accounts	Average Consumption per Month (1,000 Gallons)	Number of Units	Number of Accounts	Average Consumption per Month (1,000 Gallons)
Residential Single Family						
5/8"	48,851	48,836	238,407	37,496	37,496	181,464
1"	1,763	1,763	27,887	1,791	1,791	19,131
1 1/2"	220	82	2,715	193	193	2,370
2"	129	5	227	312	38	1,471
Residential Multi-Family, Hotel & RVs	35,258	2,102	126,818	31,305	1,744	110,495
Commercial						
5/8"	2,496	2,496	13,111	1,857	1,857	9,127
1"	1,111	1,111	17,021	706	706	11,690
1 1/2"	687	687	24,040	530	530	17,617
2"	657	657	50,929	477	477	43,909
3"	44	44	6,117	16	16	4,009
4"	9	9	19,926	7	7	6,000
6"	7	7	9,902	1	1	362
Irrigation						
5/8"	313	313	2,438	-	-	-
1"	302	302	5,489	-	-	-
1 1/2"	219	219	12,091	-	-	-
2"	137	137	16,668	-	-	-
Sale for Resale						
10"	3	3	144,275	-	-	-
TOTAL	**92,206**	**58,773**	**718,061**	**74,691**	**44,856**	**407,645**

Source: Broward County Water and Wastewater Services

Table A-3
Broward County Water and Wastewater Services
Retail Water & Wastewater
Customer Average Monthly Demand & Revenues
As of September 30, 2011

	Water			Wastewater		
	Demand	Revenue		Demand	Revenue	
Revenue Class	Total 1,000 Gal	$ Total	$ Per 1,000 Gal	Total 1,000 Gal	$ Total	$ Per 1,000 Gal
Residential Single Family	269,488	1,277,086	4.74	204,465	1,347,059	6.59
Residential Multi Family	114,091	494,802	4.34	98,866	635,825	6.43
Commercial	153,491	947,252	6.17	104,315	717,420	6.88
Sale for Resale	144,319	443,043	3.07	N/A	N/A	N/A
Irrigation	36,672	246,160	6.71	N/A	N/A	N/A
Total	**718,061**	**3,408,343**	**4.75**	**407,645**	**2,700,304**	**6.62**

Source: Broward County Water and Wastewater Services

Table A-4
WATER & WASTEWATER SERVICES
ACTIVITY BASED COSTING REPORT
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30,2011

RETAIL WATER	Wellfields	Treatment	Purchased Water	Distribution	Total Water
PERSONAL SERVICES	21,052	3,003,271	0	1,514,637	4,538,961
OPERATING MATERIAL	5,480	366,064	0	228,976	600,521
OTHER MATERIAL	25	31,057	0	1,698	32,779
UTILITIES-OTHER	0	477	0	16,061	16,538
ELECTRIC	63,288	941,632	0	298,645	1,303,565
TREAT/TRANS	0	0	0	0	0
PURCHASED WATER	0	0	4,783,437	0	4,783,437
RENTAL/LEASES	0	2,450	0	852	3,302
MOTOR POOL	0	211,672	0	114,641	326,314
CONTRACT SERVICE	0	203,652	0	552,439	756,091
OTHER		428,516	0	310,716	739,232
EDUCATIONAL COURSES	0	3,214	0	1,385	4,599
COMPUTER MAINTENANCE	0	11,177	0	0	11,177
TRAVEL	0	0	0	0	0
OTHER CHEMICALS	17,835	521,719	0	9,787	549,341
CHEMICALS CHLORINE	0	150,158	0	6,655	156,813
CHEMICALS LIME	0	1,365,650	0	0	1,365,650
SUBTOTAL	107,680	7,240,710	4,783,437	3,056,491	15,188,319
OPERATING COST RECLASS		0			
ONE CALL	0	0	0	213,823	213,823
PAINT SHOP	0	96,245	0	0	96,245
HEAVY EQUIPMENT	0	0	0	219,812	219,812
SUBTOTAL	0	96,245	0	433,635	529,880
ALLOCATE:					
SECTION ADMIN.	711	42,446	0	9,701	52,858
DIVISION ADMINISTRATION	5,121	344,362	227,496	145,364	722,343
SUBTOTAL DIRECT OVERHEAD	5,832	386,808	227,496	155,065	775,201
TOTAL	113,512	7,723,763	5,010,933	3,645,191	16,493,400

0

Table A-4
WATER & WASTEWATER SERVICES
ACTIVITY BASED COSTING REPORT
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30,2011

	District 1			District 2			Total		
ACTIVITY - Retail Wellfields	**Operations**	**Maintenance**	**Total O & M**	**Operations**	**Maintenance**	**Total O & M**	**Operations**	**Maintenance**	**Total O & M**
PERSONAL SERVICES	0	4,806	4,806	0	16,246	16,246	0	21,052	21,052
OPERATING MATERIAL	3,610	1,568	5,178	0	302	302	3,610	1,870	5,480
OTHER MATERIAL	25	0	25	0	0	0	25	0	25
UTILITIES-OTHER	0	0	0	0	0	0	0	0	0
ELECTRIC	0	0	0	63,288	0	63,288	63,288	0	63,288
TREAT/TRANS	0	0	0	0	0	0	0	0	0
PURCHASED WATER	0	0	0	0	0	0	0	0	0
RENTAL/LEASES	0	0	0	0	0	0	0	0	0
MOTOR POOL	0	0	0	0	0	0	0	0	0
CONTRACT SERVICE	0	0	0	0	0	0	0	0	0
OTHER		0	0	0	0	0	0	0	0
EDUCATIONAL COURSES	0	0	0	0	0	0	0	0	0
COMPUTER MAINTENANCE	0	0	0	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0	0	0	0
OTHER CHEMICALS	17,835	0	17,835	0	0	0	17,835	0	17,835
CHEMICALS CHLORINE	0	0	0	0	0	0	0	0	0
CHEMICALS LIME	0	0	0	0	0	0	0	0	0
SUBTOTAL	21,469	6,374	27,844	63,288	16,548	79,836	84,757	22,923	107,680
OPERATING COST RECLASS									
ONE CALL	0	0	0	0	0	0	0	0	0
PAINT SHOP	0	0	0	0	0	0	0	0	0
HEAVY EQUIPMENT	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	102,592	22,923	0
ALLOCATE:									
SECTION ADMIN.	91	27	118	470	123	592	561	150	711
DIVISION ADMINISTRATION	1,021	303	1,324	3,010	787	3,797	4,031	1,090	5,121
SUBTOTAL DIRECT OVERHEAD	1,112	330	1,443	3,480	910	4,389	4,592	1,240	5,832
TOTAL	22,582	6,705	29,287	66,767	17,458	84,226	191,941	47,086	113,512

Table A-4
WATER & WASTEWATER SERVICES
ACTIVITY BASED COSTING REPORT
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30,2011

OPERATION AND MAINTENANCE EXPENSES:	ACTIVITY - Retail Water Treatment									ACTIVITY - Purchased Water
	WTP 1-A			WTP 2-A			Total Treatment			
	Operations	Maintenance	Total O & M	Operations	Maintenance	Total O & M	Operations	Maintenance	Total O & M	
PERSONAL SERVICES	952,666	625,561	1,578,227	783,018	642,026	1,425,044	1,735,684	1,267,587	3,003,271	0
OPERATING MATERIAL	5,261	172,049	177,310	10,226	178,528	188,755	15,487	350,577	366,064	0
OTHER MATERIAL	13,513	3,406	16,919	11,621	2,517	14,138	25,134	5,922	31,057	0
UTILITIES-OTHER	477	0	477	0	0	0	477	0	477	0
ELECTRIC	429,788	0	429,788	511,845	0	511,845	941,632	0	941,632	0
TREAT/TRANS	0	0	0	0	0	0	0	0	0	0
PURCHASED WATER	0	0	0	0	0	0	0	0	0	4,783,437
RENTAL/LEASES	345	201	546	0	1,905	1,905	345	2,105	2,450	0
MOTOR POOL	73,432	64,907	138,338	40,733	32,602	73,334	114,164	97,508	211,672	0
CONTRACT SERVICE	23,965	59,801	83,766	15,632	104,254	119,886	39,597	164,056	203,652	0
OTHER	160,761	68,546	229,306	132,132	67,078	199,210	292,893	135,623	428,516	0
EDUCATIONAL COURSES	2,627	0	2,627	0	587	587	2,627	587	3,214	0
COMPUTER MAINTENANCE	0	7,594	7,594	459	3,124	3,583	459	10,718	11,177	0
TRAVEL	0	0	0	0	0	0	0	0	0	0
OTHER CHEMICALS	406,795	0	406,795	114,924	0	114,924	521,719	0	521,719	0
CHEMICALS CHLORINE	0	307	307	149,851	0	149,851	149,851	307	150,158	0
CHEMICALS LIME	492,096	0	492,096	873,553	0	873,553	1,365,650	0	1,365,650	0
SUBTOTAL	2,561,725	1,002,371	3,564,096	2,643,994	1,032,621	3,676,615	5,205,719	2,034,991	7,240,710	4,783,437
OPERATING COST RECLASS										
ONE CALL	0	0	0	0	0	0	0	0	0	0
PAINT SHOP		33,574	33,574		62,671	62,671	0	96,245	96,245	0
HEAVY EQUIPMENT	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	33,574	33,574	0	62,671	62,671	0	96,245	96,245	0
ALLOCATE:										
SECTION ADMIN.	10,898	4,264	15,162	19,621	7,663	27,284	30,519	11,927	42,446	0
DIVISION ADMINISTRATION	121,833	47,672	169,505	125,746	49,111	174,857	247,579	96,782	344,362	227,496
SUBTOTAL DIRECT OVERHEAD	132,731	51,936	184,667	145,367	56,774	202,141	278,098	108,710	386,808	227,496
TOTAL	2,694,457	1,087,880	3,767,175	2,789,361	1,152,065	3,914,142	5,483,817	2,239,946	7,681,317	5,010,933

Table A-4
WATER & WASTEWATER SERVICES
ACTIVITY BASED COSTING REPORT
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30,2011

	District One			District Two			District Three			Total Distribution		
ACTIVITY -Distribution	**Operations**	**Maintenance**	**Total O & M**	**Operations**	**Maintenance**	**Total O & M**	**Operations***	**Maintenance**	**Total O & M**	**Operations**	**Maintenance**	**Total O & M**
PERSONAL SERVICES	0	209,610	209,610	0	221,181	221,181	846,729	237,117	1,083,846	846,729	667,908	1,514,637
OPERATING MATERIAL	0	58,926	58,926	0	47,421	47,421	9,927	112,702	122,629	9,927	219,050	228,976
OTHER MATERIAL	0	0	0	0	0	0	1,698	0	1,698	1,698	0	1,698
UTILITIES-OTHER	0	0	0	0	0	0	16,061	0	16,061	16,061	0	16,061
ELECTRIC	151,115	0	151,115	0	0	0	147,529	0	147,529	298,645	0	298,645
TREAT/TRANS	0	0	0	0	0	0	0	0	0	0	0	0
PURCHASED WATER	0	0	0	0	0	0	0	0	0	0	0	0
RENTAL/LEASES	0	0	0	0	0	0	852	0	852	852	0	852
MOTOR POOL	0	0	0	0	0	0	114,641	0	114,641	114,641	0	114,641
CONTRACT SERVICE	0	278,319	278,319	0	61,877	61,877	47,640	164,603	212,243	47,640	504,799	552,439
OTHER	0	0	0	0	0	0	5,887	304,829	310,716	5,887	304,829	310,716
EDUCATIONAL COURSES	0	0	0	0	0	0	1,385	0	1,385	1,385	0	1,385
COMPUTER MAINTENANCE	0	0	0	0	0	0	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0	0	0	0	0	0	0
OTHER CHEMICALS	0	0	0	0	0	0	9,787	0	9,787	9,787	0	9,787
CHEMICALS CHLORINE	0	0	0	0	0	0	6,655	0	6,655	6,655	0	6,655
CHEMICALS LIME	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	151,115	546,855	697,971	0	330,480	330,480	1,208,790	819,251	2,028,041	1,359,905	1,696,586	3,056,491
OPERATING COST RECLASS												
ONE CALL	73,883	0	73,883	74,822	0	74,822	65,117	0	65,117	213,823	0	213,823
PAINT SHOP	0	0	0	0	0	0	0	0	0	0	0	0
HEAVY EQUIPMENT	0	84,458	84,458	0	68,960	68,960	0	66,394	66,394	0	219,812	219,812
SUBTOTAL	73,883	84,458	158,341	74,822	68,960	143,783	65,117	66,394	131,512	213,823	219,812	433,635
ALLOCATE:												
SECTION ADMIN.	643	2,326	2,969	0	2,452	2,452	794	3,485	4,279	1,437	8,264	9,701
DIVISION ADMINISTRATION	7,187	26,008	33,195	0	15,717	15,717	57,489	38,963	96,452	64,676	80,688	145,364
SUBTOTAL DIRECT OVERHEAD	7,830	28,334	36,164	0	18,170	18,170	58,283	42,448	100,731	66,113	88,952	155,065
TOTAL	232,828	659,648	892,476	74,822	417,610	492,432	1,332,190	928,093	2,260,283	1,639,841	2,005,351	3,645,191

*includes Underground

Table A-4
WATER & WASTEWATER SERVICES
ACTIVITY BASED COSTING REPORT
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30,2011

	District One			District Two			District Three			Total Collection		
ACTIVITY -Collection	Operations	Maintenance	Total O & M	Operations	Maintenance	Total O & M	Operations*	Maintenance	Total O & M	Operations	Maintenance	Total O & M
PERSONAL SERVICES	0	100,595	100,595	0	139,439	139,439	430,557	47,472	478,029	430,557	287,505	718,062
OPERATING MATERIAL	0	14,182	14,182	0	23,369	23,369	16,130	9,548	25,679	16,130	47,099	63,229
OTHER MATERIAL	0	0	0	0	0	0	1,509	0	1,509	1,509	0	1,509
UTILITIES-OTHER	0	0	0	0	0	0	2,887,937	0	2,887,937	2,887,937	0	2,887,937
ELECTRIC	0	0	0	0	0	0	0	0	0	0	0	0
TREAT/TRANS	0	0	0	0	0	0	0	0	0	0	0	0
PURCHASED WATER	0	0	0	0	0	0	0	0	0	0	0	0
RENTAL/LEASES	0	0	0	0	0	0	0	0	0	0	0	0
MOTOR POOL	0	0	0	0	0	0	80,782	0	80,782	80,782	0	80,782
CONTRACT SERVICE	0	19,378	19,378	0	36,543	36,543	88,415	2,998	91,413	88,415	58,919	147,334
OTHER		8,245	8,245	0	66,350	66,350	1,412	16,092	17,504	1,412	90,686	92,098
EDUCATIONAL COURSES	0	0	0	0	0	0	0	0	0	0	0	0
COMPUTER MAINTENANCE	0	0	0	0	0	0	1,415	0	1,415	1,415	0	1,415
TRAVEL	0	0	0	0	0	0	0	0	0	0	0	0
OTHER CHEMICALS	0	0	0	0	0	0	0	0	0	0	0	0
CHEMICALS CHLORINE	0	0	0	0	0	0	0	0	0	0	0	0
CHEMICALS LIME	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	142,400	142,400	0	265,700	265,700	3,508,157	76,110	3,584,267	3,508,157	484,209	3,992,367
ALLOCATE:												
0 SECTION ADMIN.	0	606	606	0	1,972	1,972	12,286	324	12,609	12,286	2,901	15,187
DIVISION ADMINISTRATION	0	6,772	6,772	0	12,636	12,636	166,845	3,620	170,465	166,845	23,029	189,873
ONE CALL	46,334	0	46,334	46,960	0	46,960	24,419		24,419	117,712	0	117,712
PAINT SHOP												
HEAVY EQUIPMENT												
SUBTOTAL DIRECT OVERHEAD	46,334	7,378	53,712	46,960	14,608	61,568	203,550	3,943	207,493	296,843	25,930	322,773
TOTAL	46,334	149,778	196,111	46,960	280,309	327,268	3,711,707	80,053	3,791,760	3,805,000	510,139	4,315,139

* includes Underground

Table A-4
WATER & WASTEWATER SERVICES
ACTIVITY BASED COSTING REPORT
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30,2011

	District One			District Two			District Three			Field	Total Lift Stations		
ACTIVITY -Lift Stations	Operations	Maintenance	Total O & M	Operations	Maintenance	Total O & M	Operations	Maintenance	Total O & M	Support	Operations	Maintenance	Total O & M
PERSONAL SERVICES	0	173,871	173,871	0	280,192	280,192	0	137,644	137,644	795,390	795,390	591,707	1,387,097
OPERATING MATERIAL	0	214,121	214,121	0	528,524	528,524	0	130,425	130,425	17,168	17,168	873,069	890,238
OTHER MATERIAL	0	0	0	0	91	91	0	0	0	3,561	3,561	91	3,652
UTILITIES-OTHER	2,003	0	2,003	2,959	0	2,959	0	0	0	0	4,962	0	4,962
ELECTRIC	171,093	0	171,093	152,570	0	152,570	81,992	0	81,992	0	405,655	0	405,655
TREAT/TRANS	0	0	0	0	0	0	0	0	0	0	0	0	0
PURCHASED WATER	0	0	0	0	0	0	0	0	0	0	0	0	0
RENTAL/LEASES	0	0	0	0	0	0	0	0	0	521	521	0	521
MOTOR POOL	0	0	0	0	0	0	0	0	0	198,259	198,259	0	198,259
CONTRACT SERVICE	0	36,951	36,951	0	52,979	52,979	0	1,289	1,289	3,384	3,384	91,220	94,604
OTHER		0	87	568	12,612	13,179	1,250	0	1,250	0	1,904	12,612	14,516
EDUCATIONAL COURSES	0	0	0	0	0	0	0	0	0	11,259	11,259	0	11,259
COMPUTER MAINTENANCE	0	0	0	0	0	0	0	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER CHEMICALS	0	0	0	0	0	0	0	0	0	0	0	0	0
CHEMICALS CHLORINE	0	0	0	0	0	0	0	0	0	0	0	0	0
CHEMICALS LIME	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	173,183	424,942	598,125	156,096	874,397	1,030,493	83,242	269,358	352,601	1,029,543	1,442,064	1,568,698	3,010,762
ALLOCATE:													
SECTION ADMIN.	737	1,808	2,545	1,158	6,489	7,647	354	1,146	1,500	0	2,249	9,443	11,692
DIVISION ADMINISTRATION	8,236	20,210	28,446	7,424	41,586	49,009	3,959	12,810	16,769	48,964	68,583	74,606	143,189
ONE CALL	0	0	0	0	0	0	0	0	0	0	0	0	0
PAINT SHOP	0	31,335	31,335	0	31,335	31,335	0	31,335	31,335	0	0	94,006	94,006
HEAVY EQUIPMENT	0	36,037	36,037	0	32,904	32,904	0	33,761	33,761	0	0	102,702	102,702
GENERATORS	36,170	0	36,170	50,847	0	50,847	30,928	0	30,928	0	117,945	0	117,945
SUBTOTAL DIRECT OVERHEAD	8,973	89,390	98,363	8,582	112,314	120,896	4,313	79,053	83,366	48,964	70,833	280,757	351,590
TOTAL	182,156	514,333	696,488	164,678	986,711	1,151,390	87,555	348,411	435,966	1,078,507	1,512,897	1,849,455	3,362,351

Table A-4
WATER & WASTEWATER SERVICES
ACTIVITY BASED COSTING REPORT
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30,2011

ACTIVITY -Retail Sewer	Collection O & M	Lift Stations O & M	Retail Sewer TOTAL O & M
PERSONAL SERVICES	718,062	1,387,097	2,105,158
OPERATING MATERIAL	63,229	890,238	953,467
OTHER MATERIAL	1,509	3,652	5,161
UTILITIES-OTHER	2,887,937	4,962	2,892,899
ELECTRIC	0	405,655	405,655
TREAT/TRANS	0	0	0
PURCHASED WATER	0	0	0
RENTAL/LEASES	0	521	521
MOTOR POOL	80,782	198,259	279,041
CONTRACT SERVICE	147,334	94,604	241,937
OTHER	92,098	14,516	106,614
EDUCATIONAL COURSES	0	11,259	11,259
COMPUTER MAINTENANCE	1,415	0	1,415
TRAVEL	0	0	0
OTHER CHEMICALS	0	0	0
CHEMICALS CHLORINE	0	0	0
CHEMICALS LIME	0	0	0
SUBTOTAL	3,992,367	3,010,762	7,003,129
OPERATING COST RECLASS			
ONE CALL	117,712	0	117,712
PAINT SHOP	0	94,006	94,006
HEAVY EQUIPMENT	0	102,702	102,702
GENERATORS	0	117,945	117,945
SUBTOTAL	117,712	196,709	432,365
ALLOCATE:			
SECTION ADMIN.	15,187	11,692	26,879
DIVISION ADMINISTRATION	189,873	143,189	333,063
SUBTOTAL DIRECT OVERHEAD	205,060	154,881	359,941
TOTAL	4,315,139	3,362,351	7,795,435

Table A-4
WATER & WASTEWATER SERVICES
ACTIVITY BASED COSTING REPORT
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30,2011

ACTIVITY - Regional Raw Water	North System			South System			Total		
	Operations	Maintenance	Total O & M	Operations	Maintenance	Total O & M	Operations	Maintenance	Total O & M
PERSONAL SERVICES	0	36,750	36,750	0	33,726	33,726	0	70,476	70,476
OPERATING MATERIAL	0	92,531	92,531	0	122,894	122,894	0	215,425	215,425
OTHER MATERIAL	0	0	0	0	0	0	0	0	0
UTILITIES-OTHER	0	0	0	0	0	0	0	0	0
ELECTRIC	78,255	0	78,255	348,191	0	348,191	426,446	0	426,446
TREAT/TRANS	0	0	0	0	0	0	0	0	0
PURCHASED WATER	0	0	0	0	0	0	0	0	0
RENTAL/LEASES	0	0	0	0	0	0	0	0	0
MOTOR POOL	0	0	0	0	0	0	0	0	0
CONTRACT SERVICE	0	0	0	8,923	841	9,765	8,923	841	9,765
OTHER		0	640	160,501	0	160,501	161,141	0	161,141
EDUCATIONAL COURSES	0	0	0	0	0	0	0	0	0
COMPUTER MAINTENANCE	0	0	0	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0	0	0	0
OTHER CHEMICALS	0	0	0	0	0	0	0	0	0
CHEMICALS CHLORINE	0	0	0	0	0	0	0	0	0
CHEMICALS LIME	0	0	0	0	0	0	0	0	0
SUBTOTAL	78,895	129,281	208,176	517,615	157,461	675,077	596,510	286,743	883,253
OPERATING COST RECLASS									
ONE CALL	3,287	0	3,287	3,287	0	3,287	6,574	0	6,574
PAINT SHOP	0	0	0	0	0	0	0	0	0
HEAVY EQUIPMENT	0	2,645	2,645	0	0	0	0	2,645	2,645
SUBTOTAL	3,287	2,645	5,932	3,287	0	3,287	6,574	2,645	9,219
ALLOCATE:									
SECTION ADMIN.	585	959	1,545	2,202	670	2,872	2,787	1,629	4,417
DIVISION ADMINISTRATION	3,752	6,148	9,901	24,617	7,489	32,106	28,369	13,637	42,007
SUBTOTAL DIRECT OVERHEAD	4,338	7,108	11,446	26,819	8,159	34,978	31,157	15,266	46,423
TOTAL	86,520	139,034	225,553	547,722	165,620	713,342	634,241	304,654	938,895

640

Table A-4
WATER & WASTEWATER SERVICES
ACTIVITY BASED COSTING REPORT
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30,2011

ACTIVITY - Wastewater Treatment (Other)	Reuse Distribution Operations	Reuse Distribution Maintenance	Total O & M	C&M & Septage	Total
PERSONAL SERVICES	0	2,209	2,209	878,490	880,699
OPERATING MATERIAL	0	0	0	34,800	34,800
OTHER MATERIAL	0	0	0	13,499	13,499
UTILITIES-OTHER	0	0	0	0	0
ELECTRIC	0	0	0	0	0
TREAT/TRANS	0	0	0	0	0
PURCHASED WATER	0	0	0	0	0
RENTAL/LEASES	0	0	0	810	810
MOTOR POOL	0	0	0	26,253	26,253
CONTRACT SERVICE	0	0	0	32,609	32,609
OTHER		0	0	6,384	6,384
EDUCATIONAL COURSES	0	0	0	0	0
COMPUTER MAINTENANCE	0	0	0	3,474	3,474
TRAVEL	0	0	0	0	0
OTHER CHEMICALS	0	0	0	0	0
CHEMICALS CHLORINE	0	0	0	0	0
CHEMICALS LIME	0	0	0	0	0
SUBTOTAL	0	2,209	2,209	996,322	998,530
OPERATING COST RECLASS					
ONE CALL	0	0	0	0	0
PAINT SHOP	0	0	0	0	0
HEAVY EQUIPMENT		156,039	156,039	0	156,039
SUBTOTAL	0	156,039	156,039	0	156,039
ALLOCATE:					
SECTION ADMIN.	0	18	18	0	18
DIVISION ADMINISTRATION	0	105	105	47,384	47,489
SUBTOTAL DIRECT OVERHEAD	0	124	124	47,384	47,508
TOTAL	0	158,372	158,372	1,043,706	1,202,077

Table A-4
WATER & WASTEWATER SERVICES
ACTIVITY BASED COSTING REPORT
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30,2010

	Solids			Liquids			Reuse			Total Plant				
ACTIVITY - Wastewater Treatment	Operations	Maintenance	Total O & M	Operations	Maintenance	Total O & M	Operations	Maintenance	Total O & M	Operations	Maintenance	Total O & M	Other	Total Treatment
PERSONAL SERVICES	2,171,187	1,655,086	3,826,273	0	53,784	53,784	0	16,789	16,789	2,171,187	1,725,659	3,896,846	880,699	4,777,545
OPERATING MATERIAL	6,789	1,003,432	1,010,220	74	8,173	8,247	3,487	6,574	10,060	10,349	1,018,178	1,028,527	34,800	1,063,327
OTHER MATERIAL	3,679	6,790	10,469	0	0	0	0	0	0	3,679	6,790	10,469	13,499	23,968
UTILITIES-OTHER	0	0	0	323	0	323	0	0	0	323	0	323	0	323
ELECTRIC	3,242,307	0	3,242,307	0	0	0	0	0	0	3,242,307	0	3,242,307	0	3,242,307
TREAT/TRANS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PURCHASED WATER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RENTAL/LEASES	0	13,608	13,608	0	0	0	0	0	0	0	13,608	13,608	810	14,418
MOTOR POOL	122,566	43,182	165,749	0	0	0	0	0	0	122,566	43,182	165,749	26,253	192,002
CONTRACT SERVICE	1,590,247	257,091	1,847,338	0	0	0	0	0	0	1,590,247	257,091	1,847,338	32,609	1,879,947
OTHER	274,679	538,522	813,201	298,615	78,365	376,980	0	0	0	573,294	616,887	1,190,181	6,384	1,196,565
EDUCATIONAL COURSES	2,929	0	2,929	0	0	0	0	0	0	2,929	0	2,929	0	2,929
COMPUTER MAINTENANCE	0	14,378	14,378	0	0	0	0	0	0	0	14,378	14,378	3,474	17,852
TRAVEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER CHEMICALS	593,456	0	593,456	0	0	0	0	0	0	593,456	0	593,456	0	593,456
CHEMICALS CHLORINE	137,670	0	137,670	0	0	0	0	0	0	137,670	0	137,670	0	137,670
CHEMICALS LIME	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	8,145,508	3,532,089	11,677,597	299,012	140,322	439,334	3,487	23,363	26,849	8,448,006	3,695,773	12,143,780	998,530	13,142,310
OPERATING COST RECLASS														
ONE CALL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAINT SHOP	0	33,574	33,574	0	0	0	0	0	0	0	33,574	33,574	0	33,574
HEAVY EQUIPMENT	0	0	0	0	0	0	0	0	0	0	0	0	156,039	156,039
SUBTOTAL	0	33,574	33,574	0	0	0	0	0	0	0	33,574	33,574	156,039	189,613
ALLOCATE:														
SECTION ADMIN.	68,047	29,507	97,554	2,498	1,172	3,670	29	195	224	70,574	30,874	101,448	18	101,467
DIVISION ADMINISTRATION	387,393	167,983	555,376	14,221	6,674	20,894	166	1,111	1,277	401,780	175,768	577,547	47,489	625,037
SUBTOTAL DIRECT OVERHEAD	455,440	197,490	652,930	16,719	7,846	24,564	195	1,306	1,501	472,354	206,642	678,995	47,508	726,503
TOTAL	8,600,948	3,763,153	12,364,100	315,731	148,167	463,898	3,681	24,669	28,351	8,920,360	3,935,989	12,856,349	1,202,077	14,058,426

Table A-4
WATER & WASTEWATER SERVICES
ACTIVITY BASED COSTING REPORT
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30,2011

ACTIVITY -Regional Transmission (Master Lift Stations)	District Four Operations	District Four Maintenance	Total O & M
PERSONAL SERVICES	594,748	262,107	856,856
OPERATING MATERIAL	549	226,631	227,180
OTHER MATERIAL	0	25	25
UTILITIES-OTHER	50,364	0	50,364
ELECTRIC	493,204	0	493,204
TREAT/TRANS	0	0	0
PURCHASED WATER	0	0	0
RENTAL/LEASES	0	0	0
MOTOR POOL	487	63,061	63,548
CONTRACT SERVICE	0	80,512	80,512
OTHER	6,510	144,874	151,383
EDUCATIONAL COURSES	0	0	0
COMPUTER MAINTENANCE	7,766	0	7,766
TRAVEL	0	0	0
OTHER CHEMICALS	0	0	0
CHEMICALS CHLORINE	0	0	0
CHEMICALS LIME	0	0	0
SUBTOTAL	1,153,628	777,210	1,930,838
OPERATING COST RECLASS			
ONE CALL	20,975	0	20,975
SUBTOTAL	20,975	0	20,975
ALLOCATE:			
SECTION ADMIN.	9,637	6,493	16,130
DIVISION ADMINISTRATION	54,866	36,963	91,829
SUBTOTAL DIRECT OVERHEAD	64,503	43,456	107,959
TOTAL	1,239,106	820,667	2,059,773

Table A-4
WATER & WASTEWATER SERVICES
GENERAL & ADMINISTRATIVE
ACTIVITY BASED COSTING REPORT
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30,2011

	WWS Administration		WWED	IITD				Fiscal Operations Division				
ACTIVITY	**Administration**	**Project & Community Coordinator**		**Infrastructure Support**	**Application Development**	**Desktop Support**	**SCADA**	**Customer Service**	**Grounds & Buildings**	**Warehouse Costs**	**Other FOD Costs**	**Total**
PERSONAL SERVICES	1,276,807	265,886	1,270,275	405,453	721,754	524,935	461,670	2,421,361	374,089	222,969	736,508	8,681,709
OPERATING MATERIAL	137	21	4,801	0	0	11,133	2,736	397,778	82,180	18,199	0	516,984
OTHER MATERIAL	20,268	5,041	21,364	26,975	20,428	49,972	0	278,702	2,049	1,753	5,100	431,651
UTILITIES-OTHER	658	0	489	0	0	0	191,429	400	65,554	0	0	258,529
ELECTRIC	0	0	0	0	0	0	0	0	314,011	0	0	314,011
TREAT/TRANS	0	0	0	0	0	0	0	0	0	0	0	0
PURCHASED WATER	0	0	0	0	0	0	0	0	0	0	0	0
RENTAL/LEASES	1,232	0	11,941	0	0	0	0	3,416	0	0	0	16,588
MOTOR POOL	0	0	48,132	0	0	0	0	71,527	21,530	0	0	141,190
CONTRACT SERVICE	1,418	12,630	49,236	99,169	237,697	32,413	155,114	1,311,820	526,166	2,789	97,529	2,525,980
OTHER	3,010,275	6,039	19,849	53	0	0	0	654,003	0	0	0	3,690,219
COUNTY SERVICES	148,644	0		0	0	0	0	0	0	0	0	148,644
EDUCATIONAL COURSES	9,462	0	8,874	19,998	7,499	6,311	8,265	1,166	378	0	619	62,573
COMPUTER MAINTENANCE	0	0	0	72,548	0	926	11,013	0	0	0	0	84,487
PURCHASED INSURANCE	3,389,650	0	0	0	0	0	0	0	0	0	0	3,389,650
TRAVEL	2,959	0	0	335	0	0	0	0	0	1,026	0	4,321
OPERATING COSTS RECLASS	207,092	0	0	0	0	0	0	0	0	0	0	207,092
CHEMICALS CHLORINE	0	0	0	0	0	0	0	0	0	0	0	0
CHEMICALS LIME	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	8,068,603	289,616	1,434,960	624,532	987,379	625,689	830,226	5,140,173	1,385,958	246,736	839,755	20,473,627
ALLOCATE:												
DIVISION ADMINISTRATION				99,347	157,066	99,531	132,067	260,225	70,165	12,491	42,513	873,406
TOTAL	8,068,603	289,616	1,434,960	723,879	1,144,445	725,220	962,293	5,400,398	1,456,123	259,228	882,269	21,347,033
	8,068,603	289,616	1,434,960	723,879	1,144,445	725,220	962,293	5,400,398	1,456,123	259,228	882,269	21,347,033
TOTAL TO BE ALLOCATED	(8,068,603)	(289,616)	(1,434,960)	(723,879)	(1,144,445)	(725,220)	(962,293)	(5,400,398)	(1,456,123)	(259,228)	(882,269)	(21,347,033)
BALANCE AFTER ALLOCATION	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table A-5
Water & Wastewater Services
Disaggregation of Operating & Maintenance Expenses
FOR THE TWELVE MONTHS ENDED SEPTEMBER 30,2011

OPERATION AND MAINTENANCE EXPENSES:	RETAIL WATER	RETAIL WASTEWATER	WHOLESALE RAW WATER	WHOLESALE TREATMENT	WHOLESALE TRANSMISSION	WWS ADMIN, IT & FOD	ENGINEERING	TOTAL
Personal Services	4,538,961	2,105,158	70,476	4,777,545	856,856	7,411,433	1,270,275	21,030,704
Utility Services	1,320,102	3,298,554	426,446	3,242,630	543,568	572,052	489	9,403,841
Material & Supplies	633,300	958,628	215,425	1,087,295	227,205	922,470	26,165	4,070,488
Chemicals	2,071,804	0	0	731,126	0	0	0	2,802,930
Motor Pool	326,314	279,041	0	192,002	63,548	93,058	48,132	1,002,095
Contractual Services	756,091	241,937	9,765	1,879,947	80,512	2,476,744	49,236	5,494,232
Purchased Insurance	0	0	0	0	0	3,389,650	0	3,389,650
County Administrative Service	0	0	0	0	0	148,644	0	148,644
Purchased Water	4,783,437	0	0	0	0	0	0	4,783,437
Rental & Leases	3,302	521	0	14,418	0	4,648	11,941	34,830
Travel	0	0	0	0	0	4,321	0	4,321
Other	739,232	106,614	161,141	1,196,565	151,383	3,877,461	19,849	6,252,246
Educational Courses	4,599	11,259	0	2,929	0	53,699	8,874	81,360
Computer Maintenance	11,177	1,415	0	17,852	7,766	84,487	0	122,696
SUBTOTAL O & M EXPENSES	15,188,319	7,003,129	883,253	13,142,310	1,930,838	19,038,667	1,434,960	58,621,476
SECTION ADMINISTRATION	52,858	26,879	4,417	101,467	16,130	0	0	201,750
DIVISION ADMINISTRATION	722,343	333,063	42,007	625,037	91,829	873,406	0	2,687,683
ONE CALL	213,823	117,712	6,574	0	20,975	0	0	359,085
PAINT SHOP	96,245	94,006	0	33,574	0	0	0	223,825
HEAVY EQUIPMENT	219,812	102,702	2,645	156,039	0	0	0	481,198
GENERATORS	0	117,945	0	0	0	0	0	117,945
LAB	541,398	2,501	27,508	670,183	8,752	0	0	1,250,341
SUBTOTAL OPERATING O/H	1,846,479	794,808	83,150	1,586,299	137,687	873,406	0	5,321,827
TOTAL COSTS	17,034,798	7,797,936	966,402	14,728,609	2,068,525	19,912,073	1,434,960	63,943,303
CUSTOMER SERVICE	2,741,953	1,956,393	54,004	540,040	108,008	(5,400,398)	0	0
WWS ADMINISTRATION	6,377,265	2,919,289	361,789	5,513,904	774,387	(14,511,675)	(1,434,960)	(0)
SUBTOTAL ALLOCATION	9,119,218	4,875,683	415,793	6,053,944	882,395	(19,912,073)	(1,434,960)	(0)
TOTAL OPERATING EXPENSES	26,154,016	12,673,619	1,382,196	20,782,553	2,950,920	0	0	63,943,303

Source: Broward County WATER & WASTEWATER SERVICES

Table A-6
Operating and Maintenance Expense for Large User Rate
Fiscal Year 2011and 2012 (1)
$ per 1000 Gallons

	Fiscal 2011		Fiscal 2012	
	Treatment & Disposal	Transmission	Treatment & Disposal	Transmission
Total Direct Operating Costs	16,591,771	3,310,172	16,437,800	2,655,140
Allocated A & G Costs	6,026,800	908,260	5,666,230	765,920
Projected Annual Average Daily Flow (MGD)	65.2	51.8	65.2	50.4
Operating and Maintenance Rate Per 1,000 Gallons	0.886	0.211	0.839	0.186

NOTE: (1) This charge does not include costs of debt service which are fixed monthly charges to large users or IRR.

Source: Broward County Water & Wastewater Services

Table A-7
Historical and Budgeted Large Users
Operating & Maintenance Rates

Period Large User Charge in Effect	Treatment & Disposal Rate Per 1,000 Gallons	Transmission Rate Per 1,000 Gallons	Combined Rate Per 1,000 Gallons
Fiscal 2003	$0.47	$0.10	$0.57
Fiscal 2004	$0.51	$0.09	$0.60
Fiscal 2005	$0.61	$0.12	$0.73
Fiscal 2006	$0.58	$0.12	$0.70
Fiscal 2007	$0.69	$0.14	$0.83
Fiscal 2008	$0.70	$0.14	$0.84
Fiscal 2009	$0.68	$0.14	$0.81
Fiscal 2010	$0.80	$0.18	$0.97
Fiscal 2011	$0.89	$0.21	$1.10
Fiscal 2012 (Proposed)	$0.84	$0.19	$1.03

Source: Broward County Water & Wastewater Services

Table A - 8
Broward County Public Works Department
Water & Wastewater Fund
Statement of Net Assets
September 30, 2011, 2010, 2009, 2008, and 2007

	FY 2011	FY 2010	FY 2009	FY 2008	FY 2007
ASSETS					
Current Assets:					
Cash & Cash Equivalents	$ 41,846,326	$ 19,153,888	$ 17,467,136	$ 20,964,003	$ 10,181,770
Accounts Receivable (Net)	12,764,481	14,778,576	14,903,333	12,137,601	16,667,959
Inventory	7,121,114	7,242,284	6,590,565	5,438,132	3,712,854
Other Current Assets	703,014	1,262,565	1,107,662	817,973	860,180
Total Current Assets	62,434,935	42,437,313	40,068,696	39,357,709	31,422,763
Noncurrent Assets:					
Restricted Assets:					
Cash & Cash Equivalents	12,719,316	63,470,062	96,486,201	35,589,820	34,482,651
Investments	51,314,031	36,008,673	38,497,045	4,499,100	10,592,034
Total Restricted Assets	64,033,347	99,478,735	134,983,246	40,088,920	45,074,685
Property, Plant and Equipment					
Land	4,900,960	4,896,059	4,896,059	4,874,216	4,874,216
Buildings	209,769,182	209,769,182	199,109,808	197,865,989	195,483,344
Equipment	761,712,512	739,769,678	641,410,769	601,781,596	565,035,966
Utility Plant in Service before Depreciation	976,382,654	954,434,919	845,416,636	804,521,801	765,393,526
Less Accumulated Depreciation	(388,540,864)	(358,281,688)	(329,407,410)	(306,231,826)	(278,270,312)
Utility Plant in Service (Net)	587,841,790	596,153,231	516,009,226	498,289,975	487,123,214
Construction in Progress	108,117,265	65,978,177	115,108,702	118,800,015	124,784,435
Property, Plant, and Equipment (Net)	695,959,055	662,131,408	631,117,928	617,089,990	611,907,649
Deferred Bond Issuance Costs	2,466,204	2,750,043	3,012,561	2,781,755	3,010,811
Total Noncurrent Assets	762,458,606	764,360,186	769,113,735	659,960,665	659,993,145
Total Assets	$ 824,893,541	$ 806,797,499	$ 809,182,431	$ 699,318,374	$ 691,415,908
LIABILITIES					
Current Liabilities:					
Vouchers Payable and Accrued Liabilities	$ 11,260,932	$ 12,375,750	$ 10,135,356	$ 12,949,847	$ 13,845,368
Due to Other County Funds	21,355,489				
Due Other Governments	2,176,809	1,949,153	2,003,168	3,364,275	2,693,953
Customer Deposits	-	-	-	-	5,573,127
Commercial Paper	-	-	-	58,578,000	38,722,000
Total Current Liabilities	34,793,230	14,324,903	12,138,524	74,892,122	60,834,448
Noncurrent Liabilities:					
Liabilities Payable from Restricted Assets					
Accrued Interest Payable	9,984,191	10,116,680	10,257,680	6,033,563	6,119,513
Current Portion Long Term Debt	10,110,000	9,765,000	7,810,006	7,605,006	7,436,131
Customer Deposits	8,378,517	8,173,542	7,881,669	7,517,976	1,500,000
Total Liabilities Payable from Restricted Assets	28,472,708	28,055,222	25,949,355	21,156,545	15,055,644
Long Term Liabilities:					
Revenue Bonds Payable	402,623,397	412,674,304	422,418,643	256,356,660	264,041,736
Long Term OPEB Obligation	470,182	346,202	220,187	105,540	
Other Long Term Liabilities	2,487,000	2,963,000	2,501,000	2,280,000	1,921,000
Total Long Term Liabilities	405,580,579	415,983,506	425,139,830	258,742,200	265,962,736
Total Noncurrent Liabilities	434,053,287	444,038,728	451,089,185	279,898,745	281,018,380
Total Liabilities	$ 468,846,517	$ 458,363,631	$ 463,227,709	$ 354,790,867	$ 341,852,828
NET ASSETS					
Invested in Capital Assets, Net of Related Debt	$ 276,709,290	$ 275,515,952	$ 274,923,504	$ 294,550,324	$ 305,126,011
Restricted For:					
Debt Service Reserve	40,110,292	39,764,667	37,809,672	27,555,357	27,197,095
Renewal, Replacement and Improvement	5,600,000	5,600,000	5,000,000	5,000,000	4,685,000
Unrestricted	33,627,442	27,553,249	28,221,546	17,421,826	12,554,974
Total Net Assets	$ 356,047,024	$ 348,433,868	$ 345,954,722	$ 344,527,507	$ 349,563,080

Table A - 9
Broward County Public Works Department
Water & Wastewater Fund
Statement of Revenue, Expense, and Changes in Net Assets
September 30, 2011, 2010, 2009, 2008, and 2007

	FY 2011	FY 2010	FY 2009	FY 2008	FY 2007
Operating Revenue:					
Retail Services:					
Water	$ 44,293,830	$ 41,938,529	$ 41,228,986	$ 35,888,604	$ 30,603,909
Wastewater	32,664,066	29,925,893	29,668,289	27,528,566	25,151,031
Septic Charges	1,518,932	1,659,400	2,027,870	1,879,407	1,939,437
Other Services	4,094,224	3,889,586	4,140,658		
	82,571,052	77,413,408	77,065,803	65,296,577	57,694,377
Wholesale Services:					
Water	820,138	832,617	1,076,284	1,499,824	5,241,738
Wastewater	30,659,726	31,360,994	29,943,381	25,882,550	25,078,707
Other Services	-	-	-	3,089,093	3,128,263
Total Operating Revenue	114,050,916	109,607,019	108,085,468	95,768,044	91,143,085
Operating Expenses:					
Personal Services	24,664,054	26,881,760	26,309,820	25,634,621	24,968,706
Utilities Services	14,273,462	14,016,533	14,445,819	15,167,271	14,380,038
Chemicals	2,802,623	2,555,622	2,567,199	2,317,645	2,352,152
County Services	3,389,650	3,583,190	3,255,410	3,030,850	2,532,290
Material and Supplies	5,656,117	4,837,310	4,962,861	5,138,548	4,650,449
Motor Pool	1,387,081	1,279,250	1,226,051	1,428,115	1,363,596
Contractual Services	6,196,391	7,412,282	7,967,224	7,729,129	6,851,981
Other	5,573,925	4,921,007	4,054,301	2,127,206	1,840,250
Total Operating Expense (Excluding Depreciation)	63,943,303	65,486,954	64,788,684	62,573,385	58,939,462
Operating Income Before Depreciation	50,107,613	44,120,065	43,296,784	33,194,659	32,203,623
Depreciation Expense	30,974,831	28,924,359	33,120,285	34,357,177	32,631,304
Operating Income	19,132,782	15,195,706	10,176,499	(1,162,518)	(427,681)
Non-Operating Income (Expense):					
Interest Income	1,569,706	1,757,549	3,218,290	1,507,408	2,807,060
Interest Expense	(17,608,307)	(17,771,939)	(15,626,107)	(9,647,660)	(10,488,502)
Other Expense	-	(4,314,509)	-	-	-
Other Income	852,739	269,204	310,334	353,242	911,660
Other Debt Service	(294,788)	(275,848)	(309,534)	(483,634)	(427,442)
Gain/(Loss) on Disposal of Assets	25,060	37,628	(2,427,507)	(544,402)	81,412
Total Non-Operating Income (Expense)	(15,455,590)	(20,297,915)	(14,834,524)	(8,815,046)	(7,115,812)
Income Before Contributions and Transfers	3,677,192	(5,102,209)	(4,658,025)	(9,977,564)	(7,543,493)
Capital Contributions and Operating Transfers:					
Capital Contributions	3,935,964	7,581,355	6,085,240	4,941,991	6,225,315
Total Capital Contributions and Operating Transfers	3,935,964	7,581,355	6,085,240	4,941,991	6,225,315
Changes In Net Assets Before Extraordinary/Special Item	7,613,156	2,479,146	1,427,215	(5,035,573)	(1,318,178)
Extraordinary/Special Item Gain / (Loss):	-	-	-	-	-
Total Net Assets - Beginning	348,433,868	345,954,722	344,527,507	349,563,080	350,881,258
Total Net Assets - Ending	$ 356,047,024	$ 348,433,868	$ 345,954,722	$ 344,527,507	$ 349,563,080

Table A - 10
Broward County Public Works Department
Water & Wastewater Fund
Statement of Cash Flows
September 30, 2011, 2010, 2009, 2008, and 2007

	FY 2011	FY 2010	FY 2009	FY 2008
Cash Flows From Operating Activities:				
Cash Received from Customers	$ 116,497,642	$ 109,969,634	$ 104,322,322	$ 100,149,582
Cash Payments to Suppliers for Goods and Services	(38,845,785)	(39,030,655)	(41,710,796)	(37,513,353)
Other Cash Received (Paid)	853,031	(4,045,179)	314,947	353,242
Cash Payments to Employees for Services	(24,888,480)	(26,136,688)	(25,770,910)	(25,201,824)
Net Cash Provided by Operating Activities	53,616,408	40,757,112	37,155,563	37,787,647
Cash Flows From Capital and Related Financing Activities				
Acquisition and Construction of Capital Assets	(64,244,575)	(52,408,654)	(48,488,022)	(37,061,268)
Proceeds from Internal Loan	21,355,489	-	-	-
Proceeds from Sale of Capital Assets	25,060	37,628	-	39,142
Proceeds From Revenue Bonds	-	-	174,088,731	-
Proceeds from Commercial Paper Debt	-	-	-	19,856,000
Commercial Paper Debt Retired	-	-	(58,578,000)	-
Capital Recovery Fees	687,586	421,632	671,802	1,857,355
Capital Recovery Fees Refunded	(25,925)	(146,991)	(976,030)	
Capital Surcharges Contributed from Other Governments	1,721,245	1,742,223	2,178,587	1,439,117
Principal Paid on Revenue Bonds	(9,705,907)	(7,789,345)	(7,821,748)	(7,436,125)
Interest Paid on Revenue Bonds	(17,456,957)	(18,155,253)	(9,021,581)	(13,244,826)
Interest Paid on Commercial Paper	-	-	(862,702)	
Debt Service Cost Paid	(294,788)	(33,534)	(162,818)	(254,577)
Net Cash Used For Capital and Related Financing Activities	(67,938,772)	(76,332,294)	51,028,219	(34,805,182)
Cash Flows From Investing Activities:				
Purchase of Investment Securities	(102,645,993)	(51,448,753)	(64,838,704)	(59,871,248)
Proceeds from Sale and Maturities of Investment Securities	87,340,635	53,937,125	30,840,759	67,021,000
Interest on Investments	1,569,414	1,757,423	3,213,677	1,757,185
Net Cash Provided By Investing Activities	(13,735,944)	4,245,795	(30,784,268)	8,906,937
Net Increase (Decrease) In Cash & Cash Equivalents	(28,058,308)	(31,329,387)	57,399,514	11,889,402
Cash & Cash Equivalents, Beginning of Period	82,623,950	113,953,337	56,553,823	44,664,421
Cash & Cash Equivalents, End of Period (1)	$ 54,565,642	$ 82,623,950	$ 113,953,337	$ 56,553,823
(1) Cash & Cash Equivalents:				
Current Assets	$ 41,846,326	$ 19,153,888	$ 17,467,136	$ 20,964,003
Restricted Assets	12,719,316	63,470,062	96,486,201	35,589,820
Total Cash & Cash Equivalents	$ 54,565,642	$ 82,623,950	$ 113,953,337	$ 56,553,823
Reconciliation of Operating Income to Net Cash Provided by Operating Activities:				
Operating Income	$ 19,132,782	$ 15,195,706	$ 10,176,499	$ (1,162,518)
Depreciation	30,974,831	28,924,359	33,120,285	34,357,177
Miscellaneous Non-Operating Income (Expense)	853,031	(4,045,179)	314,947	353,242
Change in Assets and Liabilities:				
(Increase) Decrease in Accounts Receivable	2,014,095	124,757	(2,765,732)	4,530,357
(Increase) Decrease in Inventory	121,170	(651,719)	(1,152,433)	(1,725,278)
(Increase) Decrease in Other Current Assets	559,551	107,615	(520,495)	42,207
Increase (Decrease) in Vouchers Payable	(471,683)	863,715	(1,020,094)	277,289
Increase (Decrease) in Due Other Governments	227,656	(54,015)	(1,361,107)	670,322
Increase (Decrease) in Customer Deposits	204,975	291,873	363,693	444,849
Total Adjustments	34,483,626	25,561,406	26,979,064	38,950,165
Net Cash Provided By Operating Activities	$ 53,616,408	$ 40,757,112	$ 37,155,563	$ 37,787,647

A-11
Water and Wastewater Retail Statistics
(1,000's gallons)
As of September 30, 2011

Water	Produced	Purchased	Billed	System Uses & Losses
District 1	2,635,070	68,518	2,528,674	174,914
District 2	4,571,946	0	2,419,169	-
District 2 - Resale	0	0	1,731,307	421,470
District 3A	0	918,706	870,252	48,454
District 3BC	0	1,217,099	1,067,324	149,775
Total	**7,207,016**	**2,204,323**	**8,616,726**	**794,612**

Wastewater	Billed *	Wastewater Transmission to Plant
District 1	2,101,098	2,179,897
District 2	1,933,399	2,248,226
District 3A	544,200	559,185
District 3BC	313,045	325,513
Total	**4,891,742**	**5,312,821**

* Based upon water billed to wastewater customers. Residential billing capped at 15,000 gallons.

Source: Broward County Water and Wastewater Services